



PISA 2018

Reporting
Australia's
Results
Volume II
**Student and School
Characteristics**

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Executive summary

School plays a significant part in the lives of adolescents as they spend a large part of their time at school. The relationships students develop with their peers and their teachers also play an important role in their social lives and in developing lifelong skills.

This report focuses on a variety of constructs related to 15 year-old students' experiences at school that illustrate student background characteristics, schooling environments, and metacognitive domains. Topics explore equity—equity in learning opportunities and outcomes; the school community—sense of belonging, student cooperation and student competition, and parental involvement in school activities; the school learning environment—exposure to bullying at school, student absenteeism and lateness, disciplinary climate in English classes, and student behaviour hindering learning; students' attitudes and beliefs—student self-efficacy, fear of failure, and growth mindset; and the role teachers play in shaping students' learning—teacher enthusiasm, teacher support, teacher feedback, and teacher behaviour hindering learning.

Volume II of the PISA 2018 National report examines the similarities and differences between a number of participating countries and economies, referred to as comparison countries, the Australian states and territories, school sector and different demographic groups for each of the above constructs. The results from PISA, as one of the assessments in the National Assessment Program, allow for nationally comparable reports of student outcomes against the Alice Springs (Mparntwe) Education Declaration.¹

What is PISA?

The Programme for International Student Assessment (PISA) is an international comparative study of student performance directed by the Organisation for Economic Co-operation and Development (OECD). PISA measures the cumulative outcomes of education by assessing how well 15-year-olds², who are nearing the end of their compulsory schooling in most participating educational systems, are prepared to use the knowledge and skills in particular areas to meet real-life opportunities and challenges.

PISA 2018 is the seventh cycle of PISA since it was first conducted in 2000. Seventy-nine countries and economies participated in PISA 2018. In Australia, PISA is managed by the Australian Council for Educational Research (ACER) and is jointly funded by the Australian Government and all state and territory governments.

What are the main goals of PISA?

PISA tries to answer several important questions related to education:

- ▶ How well prepared are young adults to meet the challenges of the future?
- ▶ What skills do young adults have that will help them adapt to change in their lives? Are they able to analyse, reason and communicate their ideas effectively?

¹ Council of Australian Governments Education Council (2019).

² Students who were aged between 15 years and 3 (complete) months and 16 years and 2 (complete) months at the time of the assessment.

- ▶ Are some ways of organising schools and school learning more effective than others?
- ▶ What influence does the quality of school resources have on student outcomes?
- ▶ What educational structures and practices maximise the opportunities of students from disadvantaged backgrounds?
- ▶ To what extent does a student's performance depend on their background? How equitable is education for students from all backgrounds?

Who is assessed?

PISA assesses a random sample of 15-year-old students, drawn from a nationally representative sample of schools. In 2018, 79 countries and economies (all 36 OECD countries and 43 partner countries and economies) and around 600 000 students (representing 32 million 15-year-old students) participated in the PISA assessment.

In Australia, 740 schools and a total of 14 273 students participated in PISA 2018. Australia took a larger sample than the one required by PISA in order to oversample smaller jurisdictions to ensure that reliable estimates could be inferred for those populations.

What did participants need to do?

In 2018, PISA was administered as a computer-based assessment.³ Students completed a two-hour cognitive assessment. All students completed assessment tasks from reading literacy (the major assessment domain), and from one or more of the other domains (mathematical or scientific literacy). Students also completed a student questionnaire about their family background, aspects of their lives such as their motivation and engagement towards learning, and their attitudes to school.

School principals completed a short web-based questionnaire that focused on information about the level of resources in the school, the school environment and the qualifications of staff.

Student and school contextual data

In addition to the cognitive data collected and reported in Volume I,⁴ Volume II of the report focuses on student and school background contextual data collected. Since PISA began in 2000, the background questionnaires have served two interrelated purposes. The first purpose has been to provide a context through which to interpret scores from the cognitive assessment (both within and across education systems). The second purpose has been to provide reliable and valid non-cognitive outcomes, which can inform policy and research in their own right.

Students were assigned a suite of three student questionnaires. These consisted of the internationally standardised student questionnaire, and two additional student questionnaires that were offered as international options: an information and communications technology (ICT) questionnaire and a financial matters questionnaire.

How are results reported?

International comparative studies have provided an arena to observe the similarities and differences between educational policies and practices. They enable researchers and others to observe what is possible for students to achieve and what environment is most likely to facilitate student learning.

PISA student and school contextual background questionnaire data for Australia and the comparison countries are reported using percentages and percentage point differences. Similarly, the OECD

³ Nine countries, however, completed PISA as a paper-based assessment.

⁴ Thomson, De Bortoli, Underwood & Schmid (2019).

average across all countries is reported as percentages, and can be used to compare a country on a given student or school contextual indicator.

In addition, the measures that are presented as indices in Volume II summarise student responses to a series of related items constructed on the basis of previous research. In describing students in terms of each characteristic (e.g. self-efficacy, fear of failure), scales were originally constructed on which the OECD average was given an index value of 0,⁵ and about two-thirds of the OECD population were given between -1 and +1 (the index has a mean of 0 and a standard deviation of 1). Negative values on an index do not necessarily imply that students responded negatively to the underlying items. Rather, a student with a negative score responded less positively than students on average across OECD countries.

The indices are based on all categories for each item, whereas the reported percentages are collapsed into fewer categories. Due to this and the weighting of responses, a ranking based on the value of the indices will sometimes not exactly correspond to one based, say, on the average of the percentages.

Information about school characteristics was collected through the school questionnaire, which was completed by the principal. In this volume, responses from principals were weighted so they are proportionate to the number of 15-year-olds enrolled in the school.

PISA 2018 in Australia

- ▶ Data were gathered between late July and early September 2018.
- ▶ Test Administrators were trained in PISA procedures before they administered the assessment sessions to ensure the tests were delivered in a standard and consistent manner.
- ▶ A group of teachers were trained to code students' answers to items that required a written response.
- ▶ Participating schools received a summary of their students' results. Apart from this, all information collected in PISA at the student and school levels is kept in strict confidence.
- ▶ PISA is a key part of the Australia's National Assessment Program.

Australia's results in an international and national context

For the purposes of international comparisons with Australia, 20 of the 79 participating PISA 2018 countries, along with the OECD average, have been reported.⁶ This section summarises the findings detailed in this report. Differences are only mentioned if tests of statistical significance showed that these were likely to be real differences.

Equity in learning opportunities and outcomes

- ▶ The key proxy for equity in PISA is the strength of the relationship between socioeconomic background and performance – that is the degree to which variance in reading literacy performance scores is explained by students' socioeconomic background, as measured by the Economic, Social and Cultural Status index (ESCS).⁷ On this measure, the strength of the relationship in Australia is lower than that on average across the OECD countries.
- ▶ The socioeconomic gradient for Australia is such that each increment of the ESCS index is associated with an increase in performance of 38 score points in reading literacy.

5 However, in instances where a scale has been used in a previous PISA assessment, the OECD average in PISA 2018 may not have a value of 0. This may be due to the increases in the number of OECD countries and/or changes in the responses to the items over time.

6 For more information about the reporting of country results, please refer to the Reader's Guide.

7 For more information about the ESCS index, please refer to the Reader's Guide.

- ▶ The slope of the socioeconomic gradient for Australia is similar to the average across the OECD countries. In Australia, the effect of socioeconomic background on performance in reading literacy is the same as the average across the OECD countries.
- ▶ South Australia had the flattest slope across the Australian jurisdictions, indicating there was less of a relationship between ESCS and reading literacy performance in South Australia than in other jurisdictions or on average across Australia. Each increment on the ESCS index was associated with an increase of 31 score points in South Australia. The Australian Capital Territory and the Northern Territory had the steepest slopes, with a unit increase of 55 points and 54 points respectively, in ESCS.
- ▶ The strength of the relationship between socioeconomic background and reading literacy performance is significantly lower than the OECD average in Victoria, South Australia and Western Australia.
- ▶ Among the comparison countries, Australian students from a high socioeconomic background perform well. This group are educated to a standard that is not statistically different to students at a similar socioeconomic level in several high performing countries. Australian students from lower socioeconomic backgrounds, however, do not perform as well.
- ▶ The difference between advantaged and disadvantaged students across the OECD countries is 89 score points, and is the same in Australia. This is the equivalent of around 2.7 years of schooling or one full proficiency level.
- ▶ The amount of variance in performance between Australian schools is 25% and lower than the OECD average of 29%. This amount of variation between schools indicates that it still matters which school a child attends.

Sense of belonging

- ▶ On average, Australian students reported similar levels of sense of belonging at school to students in New Zealand, the United Kingdom, B-S-J-Z (China), Canada and Singapore, and a weaker sense of belonging than the OECD average.⁸
- ▶ On average, over two-thirds of Australian students agreed or strongly agreed with the statements *I make friends easily at school*, *I feel like I belong at school* and *other students seem to like me*.
- ▶ On average, approximately one-quarter of Australian students agreed or strongly agreed with *I feel like an outsider (or left out of things) at school* and *I feel awkward and out of place in my school*.
- ▶ On average, one-fifth of Australian students agreed or strongly agreed with *I feel lonely at school*.
- ▶ Student reports of sense of belonging deteriorated between PISA 2012 and 2018. For instance, there was a 10 percentage point decrease for Australian students who agreed or strongly agreed that *I feel like I belong at school* and a 12 percentage point increase for Australian students who reported that *I feel like an outsider (or left out of things) at school*.
- ▶ Students in Victoria reported similar levels of sense of belonging to students in New South Wales, and a greater sense of belonging than students in the other jurisdictions.
- ▶ Students in Catholic and independent schools reported similar levels of sense of belonging, and a greater sense of belonging than students in government schools.
- ▶ Male students reported a greater sense of belonging than female students.
- ▶ The least disadvantaged students reported a greater sense of belonging than the most disadvantaged students.⁹

⁸ B-S-J-Z (China) refers to the four PISA participating provinces: Beijing, Shanghai, Jiangsu and Zhejiang.

⁹ For more information about the socioeconomic background groups, please refer to the Reader's Guide.

- ▶ Students in metropolitan schools reported a greater sense of belonging than students in provincial and remote schools.
- ▶ Non-Indigenous students reported a greater sense of belonging than Indigenous students.
- ▶ First-generation students reported a greater sense of belonging than Australian-born students. Foreign-born students reported similar levels of sense of belonging to Australian-born and first-generation students.¹⁰
- ▶ Students in the highest quartile of the sense of belonging index scored on average 23 points higher (around two-thirds of a year of schooling) in reading literacy performance than students in the lowest quartile.

Student cooperation

- ▶ On average, Australian students perceived that cooperation among students occurred to a similar extent in schools as students in New Zealand, Poland, Macao (China) and Germany and perceived cooperating to a greater extent than students on average across the OECD countries.
- ▶ On average, nearly two-thirds of Australian students perceived it was true or extremely true that *it seems that students are cooperating with each other* and *students feel they are encouraged to cooperate with others*.
- ▶ On average, about three-fifths of students perceived *students seem to value cooperation* and *students seem to share the feeling that cooperating with each other is important*.
- ▶ Students in New South Wales perceived similar levels of cooperation among students at school to students in Victoria, South Australia and the Australian Capital Territory, and a greater perception of cooperation among students than students from the other jurisdictions.
- ▶ Students in independent schools perceived that cooperation among students occurred to a greater extent than those in Catholic and government schools.
- ▶ Male students perceived that cooperation among students occurred to a greater extent than did female students.
- ▶ The least disadvantaged students perceived that cooperation among students occurred to a greater extent than did the most disadvantaged students.
- ▶ Students in metropolitan schools perceived that cooperation among students occurred to a greater extent in schools than students in provincial and remote schools, and students in provincial schools perceived that cooperation among students occurred to a greater extent than students in remote schools.
- ▶ Non-Indigenous students perceived cooperation occurred to a greater extent than did Indigenous students.
- ▶ Students in the highest quartile of the cooperation index scored on average 29 points higher (nearly one year of schooling) in reading literacy performance than students in the lowest quartile.

Student competition

- ▶ On average, Australian students perceived competition among students at school occurred to a similar extent as students in New Zealand, Chinese Taipei and the United States, and to a greater extent than students on average across the OECD countries.
- ▶ On average, over two-thirds of Australian students perceived it was true or extremely true that *students feel that they are being compared with others*, that *students seem to value competition*, and that *it seems that students are competing with each other*.

10 For more information about immigrant background, please refer to the Reader's Guide.

- ▶ On average, just over half of the students reported that they *seem to share the feeling that competing with each other is important*.
- ▶ Students in New South Wales perceived competition among students at school occurred to a similar extent as students in the Australian Capital Territory, and perceived competition occurred to a greater extent than students in the other jurisdictions.
- ▶ Students in independent schools perceived that competition among students at school occurred to a greater extent than students in Catholic schools, who in turn perceived competition among students occurring to a greater extent than students in government schools.
- ▶ Male students perceived that competition among students occurred to a greater extent than female students.
- ▶ The least disadvantaged students perceived that competition among students occurred to a greater extent in schools than the most disadvantaged students.
- ▶ Students in metropolitan schools perceived competition among students occurred to a greater extent than students in provincial and remote schools. In turn, students in provincial schools perceived competition among students occurred to a greater extent than students in remote schools.
- ▶ Students in the highest quartile of the competition index scored on average 32 points higher (nearly one year of schooling) in reading literacy performance than students in the lowest quartile.

Parental involvement in school activities

- ▶ Principals' in Australian schools reported that around half of parents most frequently *discussed their child's progress on the initiative of one of their child's teachers*, which was similar to the percentage of principals from New Zealand, Germany and the United States.
- ▶ On average, while principals' in Australian schools reported approximately half of parents *discussed their child's progress on the initiative of one of their child's teachers*, almost half of parents *discussed their child's progress with a teacher on their own initiative*. They reported one-tenth of parents *volunteered in physical or extra-curricular activities* and fewer than one-tenth of parents *participated in local school government*.
- ▶ Principals' reports of parental involvement in school activities increased between PISA 2012 and 2018. There was a 16 percentage point increase for Australian parents who *discussed their child's progress with a teacher on their own initiative* and a 14 percentage point increase for parents *discussed their child's progress on the initiative of one of their child's teachers*.
- ▶ Almost half of the principals reported that the parents in South Australia *discussed their child's progress with a teacher on their own initiative*, while nearly one-fifth of parents in Tasmania *volunteered in physical or extra-curricular activities*.
- ▶ Half of the principals in government schools reported parents *discussed their child's progress on the initiative of one of their child's teachers* than parents in Catholic (60%) and independent schools (57%).
- ▶ Almost half of principals in metropolitan schools reported parents *discussed their child's progress with a teacher on their own initiative* than around one-third of parents in provincial schools.
- ▶ Around one-third of principals reported parents of Indigenous students *discussed their child's progress with a teacher on their own initiative* compared to almost half the parents of non-Indigenous students.
- ▶ Almost one-third of principals reported the parents of the most disadvantaged students *discussed their child's progress with a teacher on their own initiative* than almost half the parents of the least disadvantaged students.
- ▶ Principals reported students whose parents *discussed their child's progress with a teacher on their own initiative* scored 26 points (three-quarters of a year of schooling) higher in reading

literacy performance than students whose principals reported this activity occurred less frequently among parents.

- ▶ Principals reported students whose parents *participated in volunteering in physical or extra-curricular activities* scored 25 points (three-quarters of a year of schooling) higher in reading literacy performance than students whose principals reported this activity occurred less frequently among parents.

Exposure to bullying at school

- ▶ On average, Australian students reported similar levels of exposure to bullying to students in New Zealand, and more exposure to bullying than students in the other comparison countries, and the OECD average.
- ▶ In Australia, the following bullying behaviours occurred a few times a month or once a week or more: 7% of students reported that *other students took away or destroyed things that belonged to me*, 9% of students reported that *I was threatened by other students*, 9% of students reported that *I got hit or pushed around by other students*, 13% of students reported that *other students spread nasty rumours about me*, 14% of students reported that *other students left me out of things on purpose*, and 21% of students reported that *other students made fun of me*.
- ▶ Students' exposure to bullying increased between PISA 2015 and 2018. There was a 6 percentage point increase for Australian students who reported that *other students made fun of me* a few times a month or more.
- ▶ Students in the Northern Territory and Tasmania reported similar levels of exposure to bullying which were at higher levels than the other jurisdictions.
- ▶ Students in government schools reported more exposure to bullying at school than students in Catholic and independent schools.
- ▶ Male students reported more exposure to bullying at school than female students.
- ▶ The most disadvantaged students reported more exposure to bullying than the least disadvantaged students.
- ▶ Students in provincial schools reported more exposure to bullying than students in metropolitan schools.
- ▶ Indigenous students reported more exposure to bullying than non-Indigenous students.
- ▶ Australian-born students reported more exposure to bullying than first-generation students, who in turn reported more exposure to bullying than foreign-born students.
- ▶ Students in the highest quartile of the bullying index scored on average 30 points lower (almost one year of schooling) in reading literacy performance than students in the lowest quartile.

Absenteeism and lateness

- ▶ On average, 8% of Australian students reported that *I skipped a whole day of school* and *I skipped some classes* at least three times during the last two weeks prior to the PISA assessment, while 16% of students reported that *I arrived late for school* during the same period.
- ▶ Students' frequency of absenteeism and lateness increased between PISA 2012 and 2018. The largest increase was by 6 percentage points for students who reported arriving late for school.
- ▶ Fewer than 10% of students across all jurisdictions reported that *I skipped a whole day of school* or *I skipped some classes* at least three times during the last two weeks, while there were between 15% of students in New South Wales to 34% of students in the Northern Territory who reported that *I arrived late for school* during the same period.
- ▶ A higher percentage of the most disadvantaged students reported being absent, skipping classes or arriving late for school than the least disadvantaged students.

- ▶ A higher percentage of Indigenous students reported being absent, skipping classes or arriving late for school than non-Indigenous students.
- ▶ Students who reported missing whole days of school at least three times in a two week period scored 47 points (almost one-and-a half years of schooling) lower in reading literacy performance than students who reported never missing whole days of school.
- ▶ Students who reported skipping classes at least three times in a two week period scored 76 points (around two and one-third years of schooling) lower in reading literacy performance than students who reported never missing whole days of school.
- ▶ Students who reported arriving late for school at least three times in a two week period scored 61 points (almost two years of schooling) lower in reading literacy performance than students who reported never missing whole days of school.

Disciplinary climate in English classes

- ▶ On average, Australian students reported similar levels of disciplinary climate in their English classes to students in New Zealand, and a less favourable disciplinary climate than the OECD average.
- ▶ On average, approximately one-fifth of Australian students reported that *students cannot work well*, one-quarter reported that *students don't start working for a long time after the lesson begins*, approximately one-third reported that *the teacher has to wait a long time for students to quieten down* and that *students don't listen to what the teacher says*.
- ▶ On average, almost one-half of Australian students reported that *there is noise and disorder* in most English classes.
- ▶ Student reports of disciplinary climate deteriorated between PISA 2009 and 2018. There was a 5 percentage point increase for Australian students who reported that *students don't listen to what the teacher says* in most English classes.
- ▶ Students in the Australian Capital Territory reported a more favourable disciplinary climate than students in Victoria, South Australia, the Northern Territory and Tasmania, and similar levels of disciplinary climate with students in Queensland, Western Australia and New South Wales.
- ▶ Students in Catholic and independent schools reported similar levels of disciplinary climate, and a more favourable disciplinary climate than students in government schools.
- ▶ Female students reported a more favourable disciplinary climate than male students.
- ▶ The least disadvantaged students reported a more favourable disciplinary climate than the most disadvantaged students.
- ▶ Students in metropolitan schools reported a more favourable disciplinary climate than students in provincial schools, who in turn reported a more favourable disciplinary climate to students in remote schools.
- ▶ Non-Indigenous students reported a more favourable disciplinary climate than Indigenous students.
- ▶ Foreign-born students reported a more favourable disciplinary climate than first-generation students, who in turn, reported a more favourable disciplinary climate than Australian-born students.
- ▶ Students in the highest quartile of the disciplinary climate index scored on average 55 points higher (around one and two-thirds of a year of schooling) in reading literacy performance than students in the lowest quartile.

Student behaviour hindering learning

- ▶ On average, principals of Australian students reported similar levels of student behaviour hindering learning to principals of students in Korea, Chinese Taipei, Estonia, Ireland, Germany and the OECD average, and lesser levels than principals of students in New Zealand, Canada and the United States.
- ▶ On average, half of the principals of Australian students reported student learning was hindered to some extent or a lot by *students not being attentive*, one-third of principals reported learning was hindered by *student truancy* and *students lacking respect for teacher's*, approximately one-quarter of Australian principals reported *students skipping classes* and *students intimidating or bullying other students*, and one in ten principals reported *student use of alcohol or drugs* hindered student learning.
- ▶ Principals reported student behaviour hindering learning increased between PISA 2012 and 2018. There was a 7 percentage point increase for Australian principals reporting *students lacking respect for teachers* and *student use of alcohol or drugs* hindered learning and a 4 percentage point increase for principals reporting that *students intimidating or bullying other students* hindered learning.
- ▶ Principals of students in the Australian Capital Territory reported similar levels of student behaviour hindering learning to principals in New South Wales and Western Australia, and to a lesser extent than principals of students from the other jurisdictions.
- ▶ Principals of students in government schools reported student behaviour hindered learning to a greater extent than did principals in Catholic schools, who in turn reported that student learning in Catholic schools was hindered to a greater extent than in independent schools.
- ▶ Principals reported that student behaviour hindered learning for male students to a great extent than female students.
- ▶ Principals reported that student behaviour hindered learning for the least disadvantaged students to a lesser extent than the most disadvantaged students.
- ▶ Principals of students who attended schools in remote areas reported student behaviour hindered learning to a greater extent than did principals of students in provincial schools, who in turn reported that learning was hindered by student behaviour to a greater extent than principals of students in metropolitan schools.
- ▶ Principals reported that student behaviour hindered learning for Indigenous students to a greater extent than non-Indigenous students.
- ▶ Principals reported that student behaviour hindered learning for Australian-born students to a great extent than first-generation students.
- ▶ Students in the highest quartile of the student behaviour hindering learning index scored on average 67 points lower higher (about two years of schooling) in reading literacy performance than students in the lowest quartile.

Student self-efficacy

- ▶ On average, Australian students reported similar levels of self-efficacy to students in Denmark, Singapore and the OECD average.
- ▶ On average, over 90% of Australian students reported that *I usually manage one way or another and I feel proud that I have accomplished things*. Over two-thirds of students reported *my belief in myself gets me through hard times, when I'm in a difficult situation, I can usually find my way out of it* and three-quarters of students reported *I feel that I can handle many things at a time*.

- ▶ Students in Victoria reported similar levels of self-efficacy to students in New South Wales, Queensland and South Australia, and greater self-efficacy than students from the other jurisdictions.
- ▶ Students in Catholic and independent schools reported greater levels of self-efficacy than students in government schools.
- ▶ Female students reported lower levels of self-efficacy than male students.
- ▶ The least disadvantaged students reported greater levels of self-efficacy than the most disadvantaged students.
- ▶ Students in metropolitan schools reported greater self-efficacy than students in provincial schools, who in turn reported having greater levels of self-efficacy to students in remote schools.
- ▶ Non-Indigenous students reported greater levels of self-efficacy than Indigenous students.
- ▶ Australian-born students reported lower levels of self-efficacy than first-generation and foreign-born students.
- ▶ Students in the highest quartile of the self-efficacy index scored on average 24 points higher (around three-quarters of a year of schooling) in reading literacy performance than students in the lowest quartile.

Students' fear of failure

- ▶ On average, Australian students reported similar levels of fear of failure to students in Ireland and New Zealand and greater levels of fear of failure than students from the OECD countries.
- ▶ On average, about two-thirds of Australian students reported that *when I am failing, this makes me doubt my plans for the future* and *when I am failing, I am afraid that I might not have enough talent*.
- ▶ On average, three-fifths of students reported that *when I am failing, I worry about what others think of me*.
- ▶ Students in the Australian Capital Territory reported greater levels of fear of failure than students from the other jurisdictions.
- ▶ Students in independent schools had greater fear of failure than students in government schools, while Catholic schools reported similar fear of failure to students in government and independent schools.
- ▶ Female students reported greater levels of fear of failure than male students.
- ▶ The least disadvantaged students reported greater levels of fear of failure than the most disadvantaged students.
- ▶ Students in metropolitan schools reported greater levels of fear of failure than students in provincial and remote schools.
- ▶ Non-Indigenous students reported greater levels of fear of failure than Indigenous students.
- ▶ Students in the highest quartile on the fear of failure index scored on average 45 points higher (just over one and a quarter years of schooling) in reading literacy performance than students in the lowest quartile.

Growth mindset

- ▶ On average, over two-thirds of Australian students disagreed or strongly disagreed with the statement *your intelligence is something about you that you can't change very much*, which was higher than compared to the three-fifths of students from across the OECD countries.
- ▶ Nearly three-quarters of students in the Australian Capital Territory reported having a stronger growth mindset, compared to two-thirds of students in Tasmania.

- ▶ Nearly three-quarters of students in independent schools reported a stronger growth mindset, in comparison to two-thirds of students in government schools.
- ▶ Female students reported a stronger growth mindset than male students.
- ▶ The least disadvantaged students reported a stronger growth mindset than the most disadvantaged students.
- ▶ Students in metropolitan schools reported a stronger growth mindset than students in provincial and remote schools.
- ▶ Non-Indigenous students reported a stronger growth mindset than Indigenous students.
- ▶ First-generation students reported a stronger growth mindset than Australian-born and foreign-born students.
- ▶ Australian students who reported a stronger growth mindset scored 71 points higher (over two years of schooling) in reading literacy than students who reported a fixed mindset.

Teacher enthusiasm

- ▶ On average, Australian students perceived similar levels of teacher enthusiasm in their English classes to students in New Zealand, the United Kingdom and the United States, and higher levels of teacher enthusiasm in their English classes than the OECD countries.
- ▶ On average, over four-fifths of Australian students agreed or strongly agreed with the statements *it was clear that the teacher likes to deal with the topic of the lesson* and *the teacher showed enjoyment in teaching*. Over three-quarters of students reported *it was clear to me that the teacher liked teaching us*, while three-fifths of Australian students agreed or strongly agreed with *the enthusiasm of the teacher inspired me*.
- ▶ Students in the Australian Capital Territory reported similar levels of perceived teacher enthusiasm in their English classes to students in Queensland and South Australia, and perceived higher teacher enthusiasm than students from the other jurisdictions.
- ▶ Students in independent schools perceived higher teacher enthusiasm in their English classes than students in Catholic schools, who in turn perceived higher teacher enthusiasm than students in government schools.
- ▶ Female students perceived higher teacher enthusiasm in their English classes than male students.
- ▶ The least disadvantaged students perceived higher teacher enthusiasm in their English classes than the most disadvantaged students.
- ▶ Non-Indigenous students perceived higher teacher enthusiasm than Indigenous students.
- ▶ Students in the highest quartile of the teacher enthusiasm index scored on average 44 points higher (around one and one-third years of schooling) in reading literacy performance than students in the lowest quartile.

Teacher support

- ▶ On average, Australian students reported similar levels of teacher support to students in New Zealand, Singapore and Finland and more teacher support than students from the OECD countries.
- ▶ On average, over three-quarters of Australian students reported that *the teacher shows an interest in every student's learning*, *the teacher gives extra help when students need it*, *the teacher helps students with their learning*, and *the teacher continues teaching until the student understands* in most English classes.
- ▶ Students in Queensland reported their teacher provided similar levels of support to students in the Australian Capital Territory, and more teacher support than students from the other jurisdictions.

- ▶ Students in Catholic and independent schools reported they received more teacher support than students in government schools.
- ▶ The least disadvantaged students reported receiving more teacher support than the most disadvantaged students.
- ▶ Students in metropolitan schools reported receiving more teacher support than students in provincial schools and in turn, students in provincial schools reported receiving more teacher support than students in remote schools.
- ▶ Students in the highest quartile of the teacher support index scored 22 points on average higher (around two-thirds of a year of schooling) in reading literacy performance than students in the lowest quartile.

Teacher feedback

- ▶ On average, Australian students reported similar levels of teacher feedback at school to students in Chinese Taipei and the United States, and more teacher feedback than students from the OECD countries.
- ▶ On average, around half of the Australian students reported that *the teacher gives me feedback on my strengths in this subject* in most English classes, while almost 60% reported that *the teacher tells me in which areas I can still improve and the teacher tell me how I can improve my performance* in most English classes.
- ▶ Students in Victoria, South Australia, Tasmania and Western Australia reported their teacher provided similar levels of feedback to students in the Australian Capital Territory and the Northern Territory, and more teacher feedback than students in New South Wales and Queensland.
- ▶ Students in independent schools reported receiving more teacher feedback than students in government and Catholic schools.
- ▶ Male students reported receiving more teacher feedback than female students.
- ▶ The least disadvantaged students reported receiving more teacher feedback than the most disadvantaged students.
- ▶ Students in metropolitan schools reported receiving more teacher feedback than students in provincial schools.
- ▶ Foreign-born students reported receiving more teacher feedback than Australian-born and first-generation students.
- ▶ Students in the highest quartile of the teacher feedback index scored 12 points on average higher (around one-third of a year of schooling) in reading literacy performance than students in the lowest quartile.

Teacher behaviour hindering learning

- ▶ On average, principals of Australian students reported similar levels of teacher behaviour hindering learning to principals of students in New Zealand, Canada, Chinese Taipei, Norway and B-S-J-Z (China) and to a lesser extent than reported by principals of students in Germany, Hong Kong (China) and Japan.
- ▶ On average, two-fifths of principals of students reported teacher behaviour hindered student learning due to *teachers not meeting individual students' needs* and *staff resisting change*, while one-fifth of principals reported *teacher absenteeism*.
- ▶ On average, approximately one-tenth of principals of students reported teacher behaviour hindered student learning due to *teachers not being well prepared for classes* and *teachers being too strict with students* hindered learning.

- ▶ Principal reports of teacher behaviour hindering student learning increased between PISA 2012 and 2018. There was a 6 percentage point increase for principals reporting that *teacher absenteeism* hindered learning and a 3 percentage point increase for principals reporting that *teachers being too strict with students* hindered student learning.
- ▶ Principals of students in the Northern Territory reported similar levels of teacher behaviour hindering student learning to principals in Victoria and Tasmania, and to a greater extent than principals of students from the other jurisdictions.
- ▶ Principals of students in government schools reported that teacher behaviour hindered student learning to a greater extent than did principals in Catholic schools and more so than principals in independent schools. Teacher behaviour hindered student learning to a greater extent in Catholic schools than in independent schools.
- ▶ Principals of the least disadvantaged students reported that teacher behaviour hindered student learning to a lesser extent than was reported by principals of the most disadvantaged students.
- ▶ Principals of students in provincial schools reported that teacher behaviour hindered student learning to a greater extent than was reported by principals of students in metropolitan schools.
- ▶ Principals of Indigenous students reported that student learning was hindered by teacher behaviour to a greater extent than was reported by principals of non-Indigenous students.
- ▶ Students in the highest quartile of the teacher behaviour hindering learning index scored on average 28 points lower (just under one year of schooling) in reading literacy performance than students in the lower quartile.



Reader's guide

Target population for PISA

This report uses '15-year-olds' as shorthand for the PISA target population. In practice, the target population was students aged between 15 years and 3 (complete) months and 16 years and 2 (complete) months at the beginning of the assessment period, and who were enrolled and attending an educational institution full-time or part-time. As the majority of students are 15-year-olds, it has become the default shorthand for the population.

Confidence intervals and standard errors

PISA assesses a subset or sample of 15-year-olds so that inferences about the entire population of 15-year-olds can be obtained, but this design introduces a source of uncertainty. The use of confidence intervals based on the standard errors provides a way to take into account the uncertainty associated with the sampling design.

The calculation of confidence intervals can indicate the precision of a sample average as a population average. Confidence intervals provide a range of scores within which we are confident that the population average actually lies. In this report, each sample average is presented with an associated standard error. The confidence interval, which can be calculated using the standard error, indicates that there is a 95% chance that the actual population average lies within plus or minus 1.96 standard errors of the sample average.

Statistical significance

Tests for statistical significance indicate whether observed differences between results occur because they are 'real' or if they have occurred because of sampling error, or chance. An 'insignificant' or 'not significant' result should be ignored because it may not reflect real differences, while a 'significant' result refers to the statistical nature of the difference and indicates the difference is worth noting.

Significance does not imply any judgement about absolute magnitude or educational relevance. It is not to be confused with the term 'substantial', which is qualitative and based on judgement rather than statistical comparisons. A difference may appear substantial but not statistically significant (due to factors that affect the size of the standard errors around the estimate, for example) while another difference may seem small but reach statistical significance because the estimate was more accurate.

The term 'significant' is used to describe a difference that meets the requirements of statistical significance at the 0.05 level, indicating that the difference is real, and would be found in at least 95 analyses out of 100 if the comparisons were to be repeated.

In this report, all reported differences and changes are statistically significant, unless specifically stated otherwise. References to no difference or no change mean that the statistical requirement for significance was not met.

Standard errors, confidence intervals and significance tests

The use of confidence intervals provides a way to make inferences about the population parameters (e.g. means and proportions) in a manner that reflects the uncertainty associated with the sample estimates. If numerous different samples were drawn from the same population, according to the same procedures as the original sample, then in 95 out of 100 samples the calculated confidence interval would encompass the true population parameter. For many parameters, sample estimators follow a normal distribution and the 95% confidence interval can be constructed as the estimated parameter, plus or minus 1.96 times the associated standard error. In many cases, readers are primarily interested in whether a given value in a particular country is different from a second value in the same or another country, e.g. whether girls in a country perform better than boys in the same country. In the tables and figures used in this report, differences are labelled as statistically significant when a difference of that size or larger, in either direction, would be observed less than 5% of the time, if there were actually no difference in corresponding population values. Similarly, the risk of reporting an association as significant if there is, in fact, no correlation between two measures, is contained at 5%. Throughout the report, significance tests were undertaken to assess the statistical significance of the comparisons made.

Mean performance

Mean scores provide a summary of student performance and allow comparisons of the relative standing between different countries and different subgroups. In addition, mean performance is reported in this volume to examine the relationship between different student and school characteristics and student performance in reading literacy.

OECD average

An OECD average was calculated for each assessment domain and metacognitive construct, and is presented for comparative purposes. The OECD average corresponds to the arithmetic average of the respective country estimates, and can be used to compare a country on a given indicator with a typical OECD country.

Interpreting differences in the PISA scores

It is possible to estimate the score point difference that is associated with one year of schooling. This difference can be estimated for Australia because the Australian PISA 2018 sample included a sizeable number of students from different school year levels. Analyses of these data indicate that one year of schooling is, on average, 33 score points on the reading literacy scale.

Reporting of trends

Each cycle of PISA includes a number of questionnaire items from previous cycles. This allows for comparisons with previous cycles to be made and trends (changes over time) to be measured. For the purposes of this volume of the report, t-tests were conducted to establish the probability that the difference between the two percentages is caused by chance; that is, if this probability is less than 0.05, then the difference is 'significant' and is not caused by chance.

PISA indices

The measures that are presented as indices summarise student and principal responses to a series of related items constructed on the basis of previous research. In describing students in terms of each characteristic (e.g. self-efficacy, fear of failure) scales were originally constructed on which the

OECD average was given an index value of zero,¹¹ and about two-thirds of the OECD population were given between -1 and +1 (the index has a mean of 0 and a standard deviation of 1). Negative values on an index do not necessarily imply that students responded negatively to the underlying items. Rather, a student with a negative score responded less positively than students on average across OECD countries.

The indices are based on all categories for each item, whereas the reported percentages are collapsed into fewer categories. Due to this and the weighting of responses, a ranking based on the value of the indices will sometimes not exactly correspond to one based, say, on the average of the percentages.

Information about school characteristics was collected through the School Questionnaire, which was completed by the principal. In this report, responses from principals were weighted so they are proportionate to the number of 15-year-olds enrolled in the school.

Correlational analysis

An analysis of the correlation between two variables can be used to investigate the association between them. If there is a significant positive correlation, it does not imply that one factor depends on the other or that there is a cause-effect relationship between them – it simply means that they occur together. Further analysis and investigation are needed to determine the nature of the association. The most commonly used measure is the Pearson correlation coefficient, which is abbreviated as *r*.

The correlation coefficient measures the strength between two variables. Values of the correlation coefficient can range from -1 (a negative correlation – as one value increases the other value decreases) to a +1 (a positive correlation – as one value increases the other value increases).

In this report, as a general rule, correlation coefficients between 0.10 and 0.29 represent a small association, correlation coefficients between 0.30 and 0.49 represent a moderate association, and correlation coefficients of 0.50 and above represent a strong association.

Rounding of figures

Because of rounding, some numbers and percentages in figures and tables may not exactly correspond to the totals reported in the text. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation. When standard errors have been rounded to one or two decimal places and the value 0.0 or 0.00 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05 or 0.005 respectively.

Sample surveys

PISA is a sample survey and is designed and conducted so that the sample provides reliable estimates about the population of 15-year-old students. The PISA 2018 sample was a two-stage stratified sample. The first stage involved the sampling of schools in which 15-year-old students could be enrolled. The second stage of the selection process involved randomly sampling students within the sampled schools. The following variables were used in the stratification of the school sample: jurisdiction; school sector; geographic location; sex of students at the school; and a socioeconomic background variable (based on the Australian Bureau of Statistics' Socio-Economic Indexes for Areas, which consists of four indexes that rank geographic areas across Australia in terms of their relative socioeconomic advantage and disadvantage).

¹¹ However, in instances where a scale has been used in a previous PISA assessment, the OECD average in PISA 2018 may not have a value of 0. This may be due to the increases in the number of OECD countries and/or the changes in the responses to the items over time.

Definition of background characteristics

A number of definitions used in this report are particular to the Australian context, as well as many that are relevant to the international context. This section provides an explanation for those that are not self-evident.

Jurisdictions

Collectively, Australian states and territories are also generally referred to as jurisdictions.

Indigenous background

Indigenous background data were derived from the Student Questionnaire, which asked students whether they identified as being of Aboriginal and/or Torres Strait Islander descent. For the purpose of this report, data for the two groups are presented together under the term 'Indigenous students'.

Socioeconomic background

Socioeconomic status is a broad concept that summarises many different aspects of a student, school or school system. In PISA, a student's socioeconomic status is typically measured by the PISA index of economic, social and cultural status (ESCS). The ESCS is a composite score built by the indicators of three indices via principal component analysis: the highest occupational status of parents (HISEI); the highest educational level of parents in years of education (PARED); and home possessions (HOMEPOS). As no direct income measure is available from the PISA data, the availability of household possessions is used as a proxy for family wealth.

The values of the ESCS scale are standardised to have a mean of 0 and a standard deviation of 1 for the population of students in OECD countries, with each country given equal weight. The ESCS index makes it possible to draw comparisons between students and schools with different socioeconomic profiles. The higher the value of ESCS, the higher the socioeconomic status. It must be noted that there have been some adjustments to the computation of ESCS over the PISA cycles.

For the purposes of this report, ESCS is used to distinguish among students who are:

- ▶ the most disadvantaged: students whose values on the ESCS are among the bottom 25% within their country
- ▶ socioeconomically average: students whose values on the ESCS are among the middle 50% within their country
- ▶ the least disadvantaged: students whose values on the ESCS are among the highest 25% within their country.

Geographic location

In Australia in 2018, participating schools were coded with respect to the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) Schools Geographic Location Classification (Jones, 2004), as reported in previous cycles of PISA.

For reporting purposes, only the broadest categories of the MCEETYA Schools Geographic Location Classification have been used:

- ▶ metropolitan – mainland capital cities or major urban districts with a population of 100 000 or more (e.g. Queanbeyan, Cairns, Geelong, Hobart)
- ▶ provincial – provincial cities and other non-remote provincial areas (e.g. Darwin, Ballarat, Bundaberg, Geraldton, Tamworth)
- ▶ remote – areas with very restricted or very little accessibility to goods, services and opportunities for social interaction (e.g. Coolabah, Mallacoota, Capella, Mount Isa, Port Lincoln, Port Hedland, Swansea, Alice Springs, Bourke, Thursday Island, Yalata, Condingup, Nhulunbuy).

In addition, schools were coded using the Australian Bureau of Statistics' Australian Statistical Geography Standard (ASGS) Remoteness Structure, (ABS, 2011). However, only the MCEETYA Schools Geographic Location Classification has been used for reporting results by geographic location in this report.

Immigrant background

Immigrant background is derived from students' self-report of the country in which they and their parents were born. For the analysis in this report, immigrant background is defined by the following categories

- ▶ Australian-born students – students born in Australia with both parents born in Australia
- ▶ First-generation students – students born in Australia with at least one parent born overseas
- ▶ Foreign-born students – students born overseas with both parents also born overseas.

Language background

Language background is derived from students' self-report of the language they speak at home most of the time. For the analysis in this report, language background has been defined as:

- ▶ students who speak English at home
- ▶ students who speak a language other than English at home.

Reporting of country results

Seventy-nine countries and economic regions participated in PISA 2018. Economic regions are required to meet the same PISA technical standards as participating countries, although results for an economic region are only representative of the region assessed and not of the country. For convenience, this report refers to these economic regions as countries (see Chapter 1 for further detail).

However, this report does not include results for all countries that participated in PISA in 2018. For the purposes of international comparisons with Australia on various student and school characteristics, 20 countries have been reported (15 OECD countries; 5 partner countries).

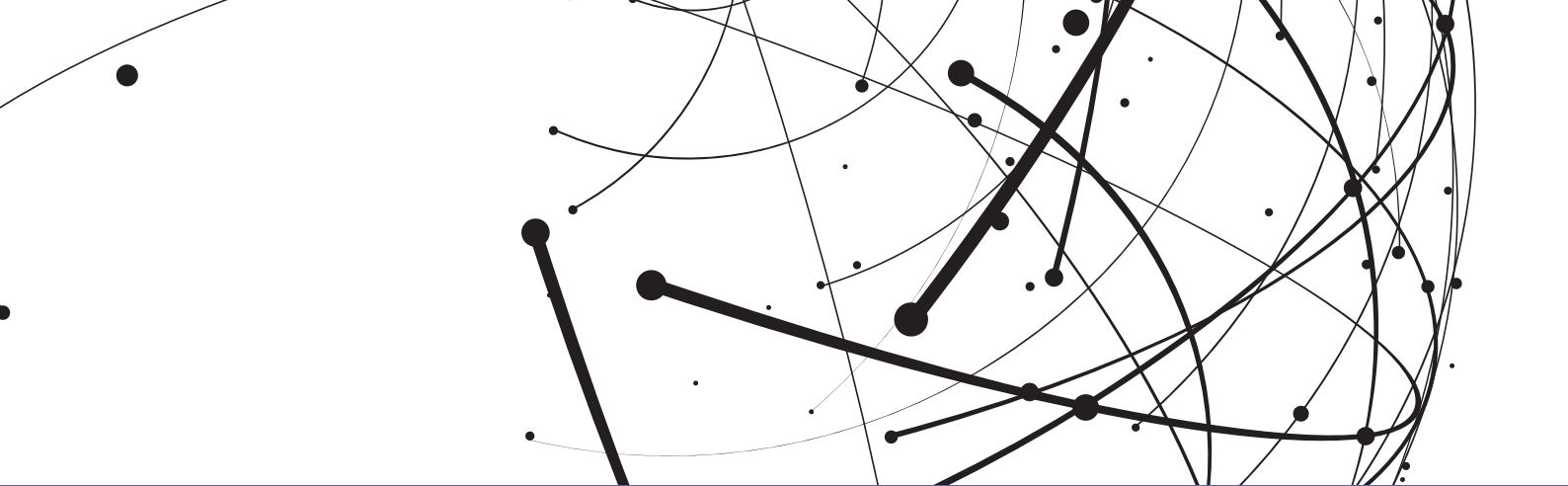
The comparison countries include OECD countries: Australia, Canada, Denmark, Estonia, Finland, Germany, Ireland, Japan, Korea, New Zealand, Norway, Poland, Sweden, the United Kingdom and the United States; and the partner countries: B-S-J-Z (China), Chinese Taipei, Hong Kong (China), Macao (China) and Singapore.¹²

The selection of countries was based on each country's performance relative to Australia's performance when participating in their first cycle of PISA, and if the country performed significantly higher than Australia, or not significantly different to Australia in the 2018 cycle of PISA. The average across all OECD countries (referred to as the OECD average) has also been reported for added comparison.

While data for Hong Kong (China) and the United States did not meet the PISA technical standards, the OECD deemed both countries' data to be accepted as largely comparable with that of other participating countries, therefore data for Hong Kong (China) and the United States have been included in this report.

Where a country is not included in reported indices, this is due to the data not being available as the underlying data were either not collected or were withdrawn at the request of the country.

12 B-S-J-Z (China) refers to the four PISA participating provinces: Beijing, Shanghai, Jiangsu and Zhejiang.



Introduction

What is PISA?

The Programme for International Student Assessment (PISA) is an international study that measures the knowledge and skills of 15-year-old students (the age at which they have nearly completed compulsory schooling in most participating education systems) and how prepared they are to use these to meet real-life opportunities and challenges.¹³ This contrasts to assessments that seek to measure the extent to which students have mastered a specific curriculum. PISA's orientation reflects a change in the goals and objectives of curricula, which increasingly address how well students are able to apply what they learn at school.

What are the main goals of PISA?

PISA looks to answer several important questions related to education:

- ▶ How well prepared are young adults to meet the challenges of the future?
- ▶ What skills do young adults have that will help them adapt to change in their lives? Are they able to analyse, reason and communicate their ideas effectively?
- ▶ Are some ways of organising schools and school learning more effective than others?
- ▶ What influence does the quality of school resources have on student outcomes?
- ▶ What educational structures and practices maximise the opportunities of students from disadvantaged backgrounds?
- ▶ To what extent does a student's performance depend on their background? How equitable is education for students from all backgrounds?

¹³ For more information about the target population for PISA, please refer to the Reader's Guide.

What does PISA assess?

Cognitive data

PISA measures three core assessment domains of reading literacy, mathematical literacy and scientific literacy. PISA also assesses additional domains in each cycle, including financial literacy.

In PISA, 'literacy' refers not only to the capacity of 15-year-old students to apply knowledge and skills in key subject areas, but also to students' ability to analyse, reason and communicate effectively as they pose, solve and interpret problems in a variety of situations.

Student and school contextual data

In addition to the cognitive data collected and reported in Volume I,¹⁴ PISA collected a wealth of student and school contextual data through the background questionnaires. Since PISA began in 2000, these questionnaires have served two interrelated purposes. The first purpose has been to provide a context through which to interpret scores from the cognitive assessment (both within and across education systems). The second purpose has been to provide reliable and valid non-cognitive outcomes, which can inform policy and research in their own right.

Students were assigned a suite of three student questionnaires. These consisted of the internationally standardised Student Questionnaire, and two additional student questionnaires that were offered as international options: an information and communications technology (ICT) questionnaire and a financial matters questionnaire.

The **Student Questionnaire** sought information on students and their family background; aspects of students' lives, such as their attitudes towards learning, their habits and life in and outside of school; aspects of students' interest, motivation and engagement; and learning and instruction in science, including instructional time and class size.

The **ICT questionnaire** collected information on the availability and use of ICT, students' perceptions of their competence in completing tasks and their attitudes towards computer use.

The **financial matters questionnaire** collected information about students' attitudes towards money, and behaviours, and their experiences and familiarity with money matters.

How are results reported in PISA?

International comparative studies have provided an arena to observe the similarities and differences between educational policies and practices. They enable researchers and others to observe what is possible for students to achieve and what environment is most likely to facilitate student learning. PISA provides regular information on educational outcomes within and across countries by providing insight into the range of skills and competencies, in different assessment domains, that are considered to be essential to an individual's ability to participate in and contribute to society.

PISA results are reported on a set of scales. Each scale was developed when an assessment domain was first administered as a major domain. Each scale was initially set to have a mean of 500 and a standard deviation of 100 across OECD countries.

Mean scores, percentage point scores and standard errors

Similar to other international studies, PISA cognitive results are reported as mean (average) scores, which provide a summary of student performance and allow for comparisons of the relative standing between different countries and different subgroups. The OECD average is the mean of the data

14 Thomson, De Bortoli, Underwood & Schmid (2019).

values across all OECD countries, and can be used to compare a country on a given indicator with a typical OECD country.¹⁵

PISA student and school contextual background questionnaire data are reported, for Australia and for the comparison countries, using percentages and percentage point differences. Similarly, the OECD average across all countries is reported as a percentages, and can be used to compare a country on a given student or school contextual indicator.

Interpreting differences in the PISA scores

It is possible to estimate the score point difference that is associated with one year of schooling. This difference can be estimated for Australia because the Australian PISA 2018 sample included a sizeable number of students from different school year levels. Analyses of these data indicate that the difference between two year levels is, on average, 33 score points on the reading literacy scale.

In this report, the focus is on differences that are statistically significant (in other words, are unlikely to have occurred by chance). Where the commentary states that there was a difference between sets of numbers, whether these are scores, percentages or percentage point differences, it means that the difference satisfied this condition. Where the commentary states that there was no difference, or where no comment is made regarding a possible comparison, it indicates that the difference was not statistically significant.

PISA indices

The measures that are presented as indices (in Volume II) summarise student responses to a series of related items constructed on the basis of previous research. In describing students in terms of each characteristic (e.g. self-efficacy, fear of failure) scales were originally constructed on which the OECD average was given an index value of zero,¹⁶ and about two-thirds of the OECD population were given between -1 and +1 (the index has a mean of 0 and a standard deviation of 1). Negative values on an index do not necessarily imply that students responded negatively to the underlying items. Rather, a student with a negative score responded less positively than students on average across OECD countries.

The indices are based on all categories for each item, whereas the reported percentages are collapsed into fewer categories. Due to this and the weighting of responses, a ranking based on the value of the indices will sometimes not exactly correspond to one based, say, on the average of the percentages.

Information about school characteristics was collected through the School Questionnaire, which was completed by the principal. In this report, responses from principals were weighted so they are proportionate to the number of 15-year-olds enrolled in the school.

What did participants do?

Students

Students completed a computer-based assessment, which consisted of a two-hour computer-based cognitive assessment, and a suite of three student questionnaires. The questionnaires were completed after the cognitive assessment, and students had up to one hour to complete the questionnaires.

¹⁵ Although the OECD average is comparable between cycles, changes in the average not only reflect change in performance of OECD countries over time, but may also reflect the addition of new member countries to the OECD.

¹⁶ However, in instances where a scale has been used in a previous PISA assessment, the OECD average in PISA 2018 may not have a value of 0. This may be due to increases in the number of OECD countries and/or changes in the responses to the items over time.

School principals

Principals of students from participating schools were asked to complete a School Questionnaire that collected descriptive information about the school, including the quality of the school's human and material resources, decision-making processes, instructional practices and school and classroom climate.

Administration of PISA

Students completed the cognitive assessment and questionnaires using computers. The delivery of the PISA software and the capture of student responses was through USB drives. School principals completed their questionnaires online using unique login credentials to access a secure website.

In Australia, PISA 2018 took place during a six-week period from late July to early September 2018. For most countries in the Northern Hemisphere, the testing period took place between March and May 2018. Together with appropriate application of the student age definition, this resulted in the students in Australia being at both a comparable age and a comparable stage in the school year to those in the Northern Hemisphere who had been tested earlier in 2018.¹⁷

Who participates in PISA?

PISA aims to be as inclusive as possible of the population of 15-year-old students in each country and strict guidelines are enforced with regard to the percentage of schools and of students that could be excluded (which could not exceed 5% of the nationally desired target population).¹⁸

There are strict criteria on population coverage, response rates and sampling procedures. For initially selected schools, a minimum response rate of 85% (weighted) was required, as well as a minimum rate of 80% (weighted) of selected students. Countries that obtained an initial school response rate between 65% and 85% could still obtain an acceptable school response by the use of replacement schools. Schools with a student participation response rate lower than 50% were not regarded as participating schools. Australia achieved the required response rates.

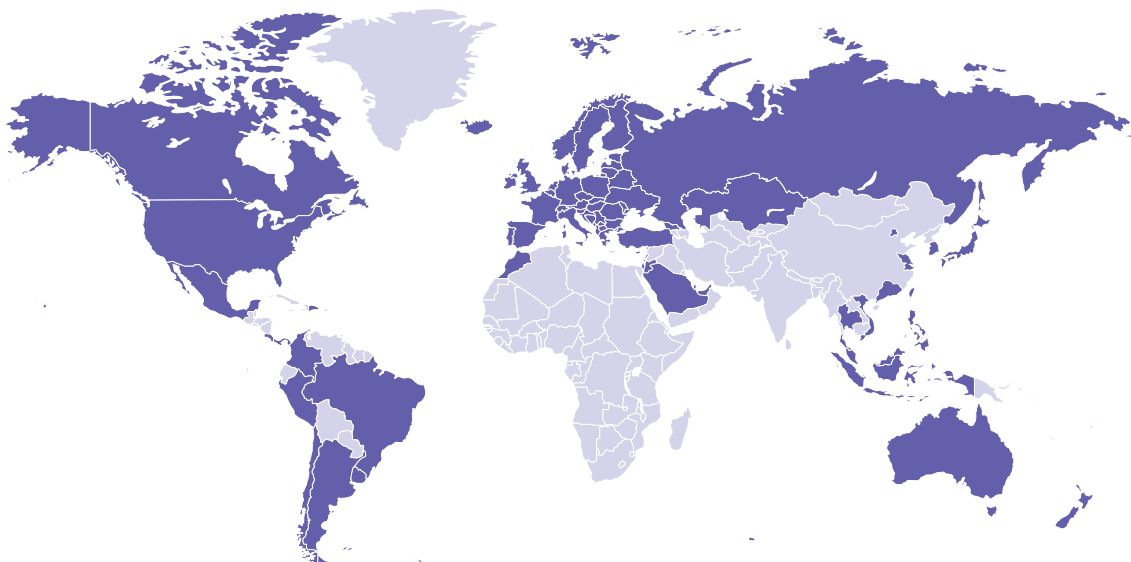
Countries

Although PISA was originally an OECD assessment created by the governments of OECD countries, it has become a major assessment in many regions and countries around the world. Seventy-nine countries and partner economies, comprising 37 OECD countries and 42 partner countries or economies, participated in PISA 2018 (Figure 1.1).¹⁹

¹⁷ For more information on the PISA procedures, please refer to Volume I of this report (Thomson, et al., 2019).

¹⁸ For more information on the PISA sampling, please refer to Volume I of this report (Thomson, et al., 2019).

¹⁹ PISA 2018 assessed the economic regions of Beijing, Shanghai, Jiangsu and Zhejiang [B-S-J-Z (China)], Chinese Taipei, Hong Kong (China) and Macao (China). Economic regions are required to meet the same PISA technical standards as other participating countries. Results for an economic region are only representative of the region assessed and are not representative of the country. For convenience, this report refers to these economic regions as countries.



OECD countries			Partner countries/economies		
Australia	Hungary	New Zealand	Albania	Hong Kong (China)	Philippines
Austria	Iceland	Norway	Argentina	Indonesia	Qatar
Belgium	Ireland	Poland	Baku (Azerbaijan)	Jordan	Republic of
Canada	Israel	Portugal	Belarus	Kazakhstan	North Macedonia
Chile	Italy	Slovak Republic	Bosnia & Herzegovina	Kosovo	Romania
Colombia	Japan	Slovenia	Brazil	Lebanon	Russian Federation
Czech Republic	Korea	Spain	Brunei Darussalam	Macao (China)	Saudi Arabia
Denmark	Latvia	Sweden	B-S-J-Z (China)*	Malaysia	Serbia
Estonia	Lithuania	Switzerland	Bulgaria	Malta	Singapore
Finland	Luxembourg	Turkey	Chinese Taipei	Moldova	Thailand
France	Mexico	United Kingdom	Costa Rica	Montenegro	United Arab Emirates
Germany	The Netherlands	United States	Croatia	Morocco	Ukraine
Greece			Cyprus	Panama	Uruguay
			Dominican Republic	Peru	Vietnam
			Georgia		

* B-S-J-Z (China) refers to the four PISA participating provinces: Beijing, Shanghai, Jiangsu and Zhejiang.

FIGURE 1.1 Countries and economies participating in PISA 2018

PISA in Australia

Schools

In most countries in PISA 2018, 150 schools and 42 students within each school were randomly selected to participate in PISA. In some countries, including Australia, larger samples of schools and students participated. This allowed countries to carry out specific national options at the same time as the PISA assessment and for meaningful comparisons to be made between different sectors of the population.

In Australia, a larger sample of schools and students participated in PISA to produce reliable estimates that would be representative of each of the Australian states and territories. In order for comparisons to be made between the states and territories, it was necessary to oversample the smaller states and territories because a random sample proportionate to state and territory populations would not yield sufficient students in the smaller states and territories to give a result that would be sufficiently precise.

As shown in Table 1.1, the final Australian PISA 2018 school sample consisted of 740 schools. The sample was designed so that schools were selected with a probability proportional to the enrolment of 15-year-olds in each school. Stratification of the sample ensured that the PISA sample was representative of the Australian population of 15-year-olds. Several variables were used in the

stratification of the school sample including state and territory, school sector, geographic location, sex of students at the school and a socioeconomic background variable.²⁰

TABLE 1.1 Number of Australian PISA 2018 schools, by state and territory and school sector

State/Territory	Sector			Total
	Government	Catholic	Independent	
ACT	24	9	8	41
NSW	98	39	29	166
VIC	70	30	26	126
QLD	81	26	26	133
SA	58	20	22	100
WA	60	21	20	101
TAS	37	11	8	56
NT	8	4	5	17
Australia	436	160	144	740

Note: These numbers are based on unweighted data.

The Australian PISA sample consisted of 85% coeducational schools, 8% all-female schools, and 7% all-male schools. Of these single-sex schools, 2% (17 schools) were from the government school sector, 8% (61 schools) were from the Catholic school sector, and 4% (30 schools) were from the independent school sector.

Students

The target population for PISA is students who are aged between 15 years and 3 months, and 16 years and 2 months at the beginning of the testing period and are enrolled in an educational institution, either full-time or part-time. Since the largest proportion (but not all) of the PISA target population is made up of 15-year-olds, the target population is often referred to as 15-year-olds.

In each country, a random sample of 42 students was selected with equal probability from each of the randomly selected schools using a list of all 15-year-old students submitted by the schools. Approximately 600 000 students took part in PISA 2018, representing about 32 million 15-year-old students internationally.

PISA 2018 students across the states and territories

In most Australian jurisdictions, 30 students were sampled per school, while in the Australian Capital Territory, 36 students were sampled per school, and in the Northern Territory, 48 students were sampled per school.²¹ The Australian PISA 2018 sample of 14 273 students, whose results feature in the national and international reports, was drawn from all jurisdictions and school sectors according to the distributions shown in Table 1.2.

²⁰ Based on the Australian Bureau of Statistics' Socio-Economic Indexes for Areas (SEIFA).

²¹ This includes the number of students sampled per school for both the PISA assessment and the assessment of financial literacy.

TABLE 1.2 PISA 2018 students across the states and territories and school sectors

		State / Territory								
		ACT	NSW	VIC	QLD	SA	WA	TAS	NT	Total
Government	N Students	438	1895	1320	1455	1032	1096	624	138	7998
	Weighted N	2688	47 178	35450	32027	10068	17053	3608	1351	149423
Catholic	N Students	211	834	630	551	425	448	198	85	3382
	Weighted N	1431	19972	16137	11174	3618	5576	1244	277	59429
Independent	N Students	194	586	542	519	431	398	107	116	2893
	Weighted N	786	14 117	13688	10214	3899	5230	623	371	48928
Total	N Students	843	3315	2492	2525	1888	1942	929	339	14273
	Weighted N	4905	81 267	65275	53415	17585	27859	5475	1999	257780

Note: N students is based on the achieved (unweighted) sample; weighted N is based on the number of students in the target population represented by the sample.

As the sample is age-based in PISA, students come from various year levels but they are mostly from Years 9, 10 and 11. As shown in Table 1.3, there are some variations to the year-level composition of the sample because of differing school starting ages in different states and territories.

TABLE 1.3 Percentage of Australian PISA 2018 students, by state and territory and year level

State/Territory	Year level (%)					
	7	8	9	10	11	12
ACT		^	13	81	5	^
NSW		^	12	83	6	^
VIC		^	21	78	1	
QLD		^	4	82	14	
SA			7	89	4	^
WA			1	85	14	^
TAS		^	31	68	0	
NT			9	82	9	
Australia		^	11	82	7	^

^ denotes percentages < 1

Note: Percentages are based on unweighted data; the jurisdiction totals are reported as whole numbers without rounding of decimal places.

Table 1.4 shows the number of Australian female and male students who participated in PISA 2018 by state and territory. There were equal proportions of female and male students in two states (South Australia and Tasmania), while the proportion of male students was higher than the proportion of female students in the Australian Capital Territory (48% female; 52% male) and in New South Wales, Victoria, Queensland and Western Australia (49% female, 51% male). The proportion of female students was higher than the proportion of male students in the Northern Territory (51% female, 49% male).

TABLE 1.4 Percentage of Australian PISA 2018 students, by state and territory and sex

		State / Territory								
		ACT	NSW	VIC	QLD	SA	WA	TAS	NT	Total
Females	N Students	414	1658	1225	1246	938	967	465	162	7075
	Weighted N	2339	40210	31915	26136	8787	13613	2742	1019	126761
	Weighted (%)	48	49	49	49	50	49	50	51	50
Males	N Students	429	1657	1267	1279	950	975	464	177	7198
	Weighted N	2567	41057	33360	27279	8798	14245	2734	980	131020
	Weighted (%)	52	51	51	51	50	51	50	49	50

Note: N students is based on the achieved (unweighted) sample; weighted N is based on the number of students in the target population represented by the sample.

PISA 2018 students and geographic location of schools

In PISA 2018, the geographic location of schools was reported using the MCEETYA Schools Geographic Location Classification (Jones, 2004) as in previous cycles of PISA, as well as the Australian Statistical Geography Standard (ASGS) Remoteness Structure (ABS, 2011).²² Table 1.5 shows the distribution of students by both geographical classifications.

According to the MCEETYA Classification, about 73% of PISA 2018 participants attended schools in metropolitan areas, 25% in provincial areas and the remaining 2% in remote areas. The ASGS Remoteness Structure classification identifies a similar distribution of PISA participants attending schools by geographical location.²³

TABLE 1.5 Percentage of Australian PISA 2018 students, by geographic location

Geographic location	MCEETYA Schools Geographic Location Classification		
	N students	Weighted N	Weighted %
Metropolitan	10 418	193 292	73
Provincial	3 621	61 874	25
Remote	234	2 613	2
Geographic location	Australian Statistical Geography Standard (ASGS) Remoteness Structure		
	N students	Weighted N	Weighted %
Major cities	9 866	185 980	72
Regional	4 202	69 584	27
Remote	205	2 215	1

Note: N students is based on the achieved (unweighted) sample; weighted N is based on the number of students in the target population represented by the sample.

PISA 2018 students and Indigenous background

In PISA 2018, Australian students were asked to identify whether they were of Indigenous background when they completed the Student Questionnaire. This method of identification differed from previous cycles of PISA when Indigenous students were identified from information provided by their schools. Five per cent of the PISA sample was of Indigenous background. Table 1.6 shows the number of Australian Indigenous and non-Indigenous students who participated in PISA 2018.

TABLE 1.6 Percentage of Australian PISA 2018 students, by Indigenous status

Indigenous background	N students	Weighted N	Weighted %
Indigenous	683	11 090	5
Non-Indigenous	12 267	225 041	95

Note: N students is based on the achieved (unweighted) sample; weighted N is based on the number of students in the target population represented by the sample.

PISA 2018 students and socioeconomic background

Information about students' socioeconomic background was collected in the Student Questionnaire. Students were asked several questions about their family and home background. This information was used to construct a measure of socioeconomic background: the Economic, Social and Cultural Status index (ESCS). Using this index, participating students were distributed into quartiles of socioeconomic background.

Table 1.7 shows the distribution of Australian students by socioeconomic background quartiles and school sector. There were higher proportions of students from lower socioeconomic backgrounds

²² For more information about MCEETYA Schools Geographic Location Classification, please refer to the Reader's Guide.

²³ For the purposes of reporting results by geographic location, only the MCEETYA Schools Geographic Location Classification is used in this report.

who attended government schools (33%) compared to the proportions who attended Catholic schools (15%) or independent schools (10%). Conversely, there were lower proportions of students from higher socioeconomic backgrounds who attended government schools (17%) compared to the proportions who attended Catholic schools (31%) or independent schools (43%).

TABLE 1.7 Number and percentage of Australian PISA 2018 students, by socioeconomic background quartiles and school sector

Socioeconomic background	Government			Catholic			Independent			Total weighted % of PISA population
	N students	Weighted N	Weighted %	N students	Weighted N	Weighted %	N students	Weighted N	Weighted %	
Lowest quartile	2432	46057	33	474	7850	15	270	4538	10	25
Second quartile	1983	37684	27	733	12490	24	488	8297	19	25
Third quartile	1643	30870	22	853	15213	29	715	12336	28	25
Highest quartile	1217	23060	17	876	16174	31	1129	19227	43	25

Note: N students is based on the achieved (unweighted) sample; weighted N is based on the number of students in the target population represented by the sample.

PISA 2018 students and immigrant background

The Student Questionnaire collected information about where students and their parents were born. These data were used to create a measure of immigrant status with three categories: Australian-born, first-generation and foreign-born.²⁴

Table 1.8 shows that just over 50% of students who participated in PISA 2018 were Australian-born, 31% were first-generation and 14% of students were foreign-born.

TABLE 1.8 Number and percentage of Australian PISA 2018 students, by immigrant background

Immigrant background	N student	Weighted N	Weighted %
Australian-born	7029	125010	53
First-generation	3875	73376	31
Foreign-born	1770	32515	14

Note: N students is based on the achieved (unweighted sample); weighted N is based on the number of students in the target population represented by the sample.

PISA 2018 students and language background spoken at home

The Student Questionnaire asked students which language was spoken in their homes most of the time. A measure of language spoken at home was derived to identify students who spoke English at home and students who spoke a language other than English at home.

Table 1.9 shows that in Australia, 88% of PISA 2018 participants indicated that English was spoken at home most of the time; 12% of students indicated they spoke a language other than English at home most of the time (Table 1.9).

TABLE 1.9 Number and percentage of Australian PISA 2018 students, by language background spoken at home

Language background	N student	Weighted N	Weighted %
English spoken at home	11366	206051	88
Language other than English spoken at home	1533	29133	12

Note: N students is based on the achieved (unweighted sample); weighted N is based on the number of students in the target population represented by the sample.

24 For more information about immigrant background, please refer to the Reader's Guide.

PISA's part in Australia's National Assessment Program

PISA is a key part of the National Assessment Program (NAP). Components of the NAP include:

- ▶ the National Assessment Program - Literacy and Numeracy (NAPLAN) conducted annually for every student in Years 3, 5, 7 and 9
- ▶ the national sample assessments of Civics and Citizenship, and Information and Communication Technology (ICT) literacy, and Science Literacy
- ▶ the international assessments (in addition to PISA) that comprise the International Association for the Evaluation of Educational Achievement's (IEA) Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS).

Unlike NAPLAN, PISA is not a curriculum-based assessment. It assesses a nationally representative sample of 15-year-olds (rather than a year-level based sample) and provides national and group estimates, rather than individual student results.

The results collected from these assessments allow for nationally comparable reporting of progress towards the *Alice Springs (Mparntwe) Education Declaration* (Council of Australian Governments Education Council, 2019), which sets goals for high-quality schooling in Australia to ensure students have the necessary knowledge, understanding, skills and values for a productive and rewarding life.

The Australian Curriculum, Assessment and Reporting Authority (ACARA) reports on these assessments annually in its National Report on Schooling in Australia, which is the main vehicle for reporting against nationally agreed key performance measures defined in the *Measurement Framework for Schooling in Australia* (ACARA, 2015).

Organisation of the report

Volume II of the report examines student and school background characteristics, and how these are related to student performance.

Each chapter focuses on different indicators that cover the school community, the school learning environment, students' attitudes and beliefs, and the role teachers play in shaping students' learning. Together, the different indicators of student and school life provide an illustration of some of the many key aspects that make up the school experience.

Further information

Further information about PISA Australia is available from the national PISA website: www.acer.org/pisa/.



Equity in learning opportunities and outcomes

CHAPTER

2

Key findings

- The socioeconomic gradient for Australia is such that each increment of the PISA ESCS is associated with an increase in performance of 38 score points in reading literacy.
- The slope of the socioeconomic gradient for Australia is similar to the average across the OECD countries. In Australia, the effect of socioeconomic background on performance in reading literacy is the same as the average across the OECD average.
- South Australia had the flattest slope across the Australian jurisdictions, indicating there was less of a relationship between ESCS and reading literacy performance in South Australia than in other jurisdictions or on average across Australia. Each increment on the ESCS scale was associated with an increase of 31 score points in South Australia. The Australian Capital Territory and the Northern Territory had the steepest slopes, with a unit increase in ESCS reflected in an increase in reading literacy score of 55 points and 54 points, respectively.
- The key proxy for equity in PISA is the strength of the relationship between socioeconomic background and performance – that is, the degree to which variance in reading literacy performance scores is explained by students' socioeconomic background. On this measure, the strength of the relationship in Australia is lower than the on average across the OECD average.
- In particular, the strength of the relationship between socioeconomic background and performance is significantly lower than the OECD average in Victoria, South Australia and Western Australia.
- Among the comparison countries, Australian students from a high socioeconomic background perform well. This group are educated to a standard that is not statistically different to students at a similar socioeconomic level in several high performing countries. Australian students from lower socioeconomic backgrounds, however, do not perform as well.
- The difference between advantaged and disadvantaged students across the OECD countries is 89 score points, and is the same in Australia. This is the equivalent of around 2.7 years of schooling or one full proficiency level.
- The amount of variance in performance between Australian schools is 25% and lower than the OECD average of 29%. This amount of variation between schools indicates that it still matters which school a child attends.

The new Alice Springs (Mparntwe) Education Declaration (COAG Education Council, 2019) commits Australian governments to promoting excellence and equity in Australian schools. Among other things, this means that governments aim to:

- ▶ provide all young Australians with access to high-quality education that is inclusive and free from any form of discrimination
- ▶ improve outcomes for educationally disadvantaged young Australians.

This understanding of equity in education resonates in the Sustainable Development Goals, adopted by the United Nations in September 2015. In particular, Goal 4 encourages all countries to ensure ‘inclusive and equitable quality education and promote lifelong learning opportunities for all’ (United Nations, 2016).

Equity in education means that schools and education systems provide equal learning opportunities for all students. As a result, students of different socioeconomic backgrounds, gender or family background can enjoy a similar provision of education and can achieve similar levels of performance in key areas. Equity does not mean that all students will achieve equally, but rather that such differences are unrelated to their background or to economic and social circumstances over which they have no control.

PISA collects a wealth of background data that, along with the achievement data, makes it possible to examine progress towards both national and international goals. Socioeconomic background and its relationship with achievement is the focus of this chapter, in terms of how it relates in a number of ways to ‘fairness’ and equity.

Distribution of socioeconomic background internationally

Variations in socioeconomic background both within and between countries should be taken into account when comparing student performance. Figure 2.1 shows the average ESCS for each of the comparison countries, and the spread of ESCS values between the 5th and 95th percentiles. Countries are arranged in order of their heterogeneity – the spread of values between the 5th and 95th percentiles – that is, how wide the socioeconomic inequality is in each country.

Japan is the most socioeconomically heterogeneous society, with the narrowest range of scores on socioeconomic background, Hong Kong (China) the least heterogeneous, with the largest range.

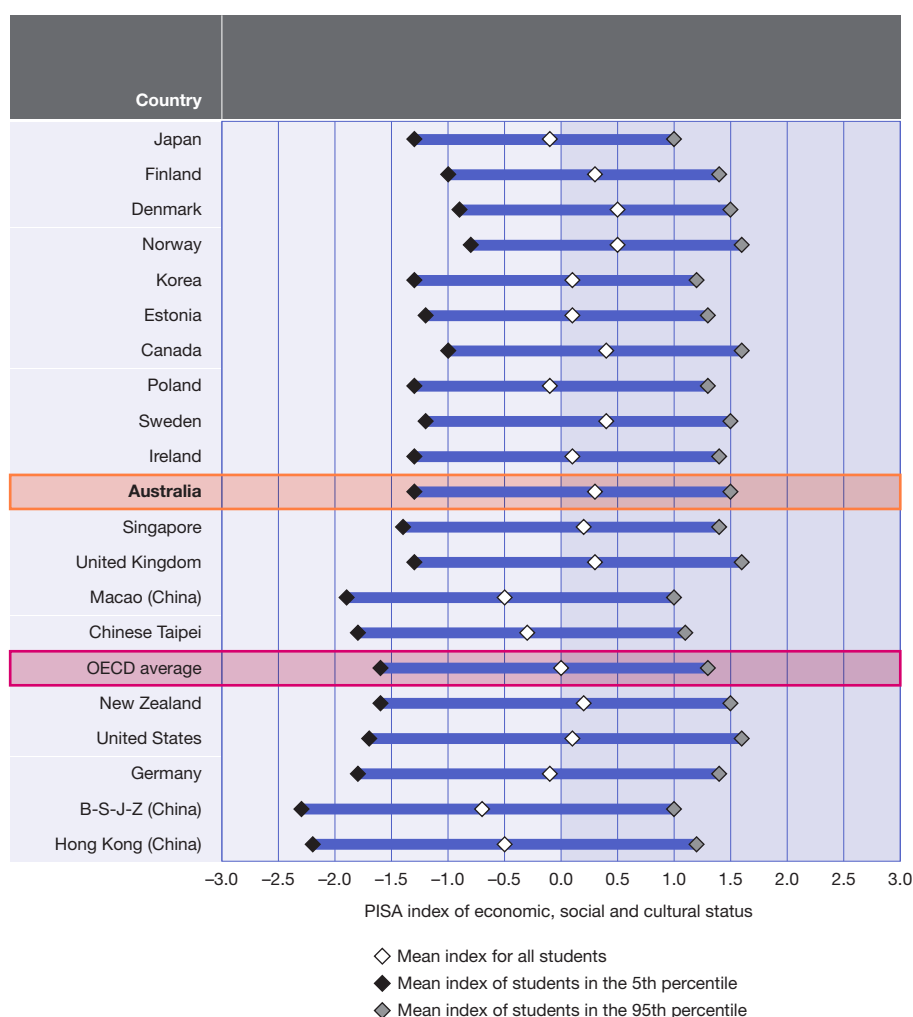


FIGURE 2.1 Heterogeneity in socioeconomic status within comparison countries

Figure 2.2 shows performance differences in reading literacy performance by international deciles of the ESCS index for Australia and for the comparison countries. Countries and economies participating in PISA vary widely in their national wealth and socioeconomic heterogeneity (as seen in Figure 2.1), and so the proportions of 15-year-olds at each decile on the international scale also vary considerably. In Denmark, Norway, Australia and Canada, 20% or more of 15-year-old students were in the top decile of the international distribution of ESCS while in Korea, Poland, Estonia, Japan, Chinese Taipei, and Macao (China), Hong Kong (China) and B-S-J-Z (China) fewer than 10% of 15-year-old students were at the same socioeconomic level. In contrast, few of the comparison countries had large proportions of students at the bottom decile. The OECD average was 6% of students, and only in Macao (China) (7%), Hong Kong (China) (11%) and B-S-J-Z (China) (16%) were the proportions larger.

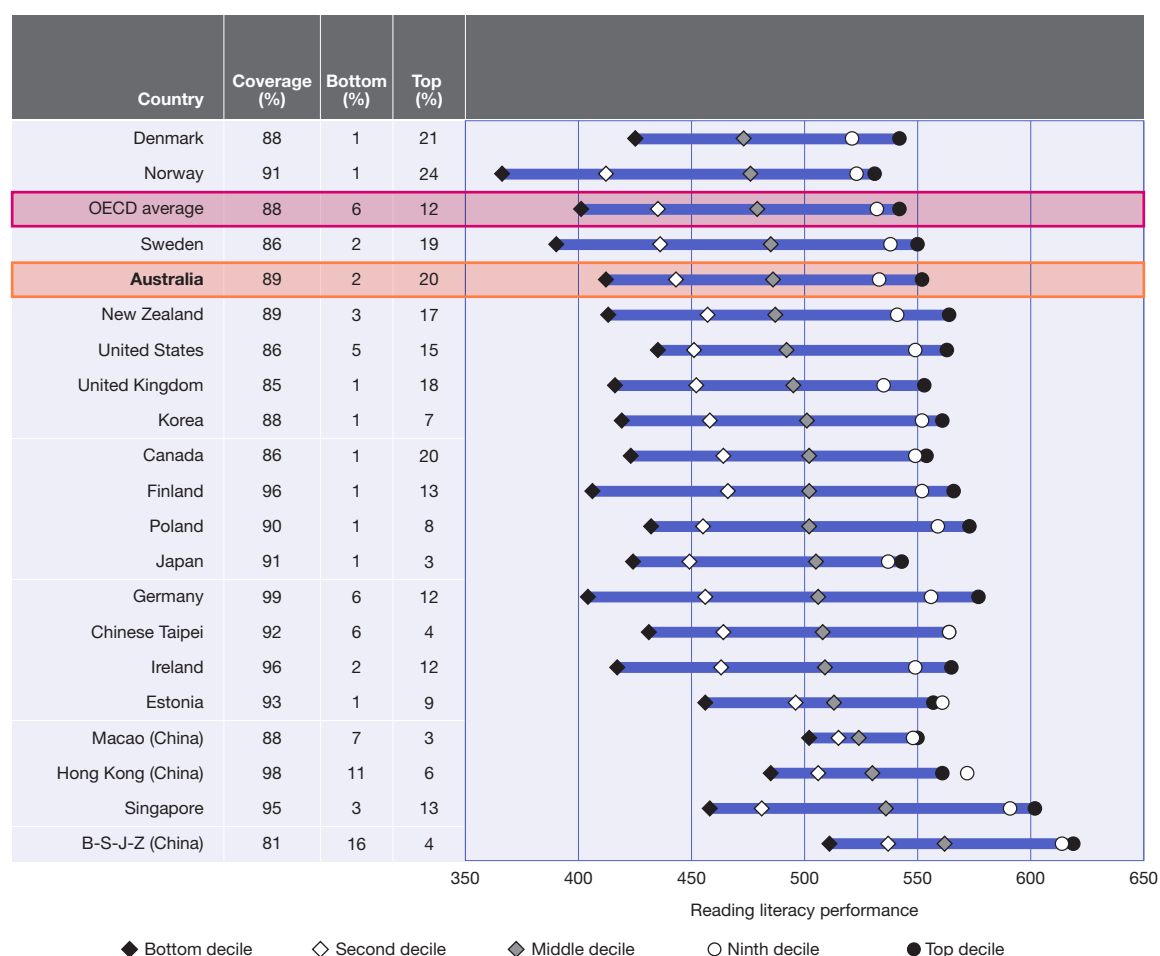
Figure 2.2 illustrates how the performance of students of similar socioeconomic status varies depending on the country or economy in which students live. The figure shows the proportions of students in the top and bottom international deciles of socioeconomic status and the PISA coverage indices, which should also be taken into account when making comparisons.

In Denmark, Norway, Australia and Canada, (previously identified as having 20% or more of students in the top decile of international ESCS), the coverage rates are similar – more than 86% of students are eligible to sit the PISA assessment. The average reading literacy score of those students in the top decile of ESCS was 542 points in Denmark, 531 points in Norway, 552 points in Australia and 554 points in Canada (the latter two are not statistically different to each other). For students around the median decile of ESCS internationally, the scores were 473 points in Denmark, 476 points in Norway,

486 points in Australia and 502 points in Canada. The difference between the scores for Australia and Norway is not significant. At the lowest decile of ESCS, the scores are 425 points in Denmark, 366 points in Norway, 412 in Australia and 423 points in Canada. The difference in scores between Australia and Denmark and between Australia and Canada are not statistically significant.

Among the comparison countries, Australian students from a high socioeconomic background perform well. This group are educated to a standard that is not statistically different to students at a similar socioeconomic level in equal second highest performing countries Macao (China), Hong Kong (China), Estonia and Canada (although lower than Finland and Ireland, also equal second highest performers).

However, at lower levels of socioeconomic status, Australia's students do not perform as well. While the average score for Australian students at this lower decile (412 points) is not statistically different to that of students at a similar level in Finland, Canada and Ireland, Australian students are significantly outperformed by those in Macao (China) (502 points), Hong Kong (China) (485 points) and Estonia (456 points).



Notes: Percentage of students who are in the top/bottom international decile of the PISA index of economic, social and cultural status are shown next to the country/economy name.
Bottom, second, ninth and top deciles correspond to the average performance of students who are in the corresponding deciles of the distribution of the PISA index of economic, social and cultural status across all countries and economies; the middle decile corresponds to students whose socioeconomic status ranges from the 45th to the 55th percentile of this distribution.

FIGURE 2.2 Mean performance in reading, by international decile of socioeconomic status

What is the achievement of Australian students by socioeconomic background?

The results of the cognitive testing in PISA, including analysis by socioeconomic background, are presented in Volume 1 of this report (Thomson et al., 2019). This section recaps those findings (Table 2.1). Across the OECD, 47 score points separate the reading literacy performance of students from the least disadvantaged backgrounds (those in the highest quartile of socioeconomic background) and the socioeconomically average student. In Australia, this difference is about the same – 44 score points – and represents about 1.4 years of schooling. Not surprisingly, the difference between the least advantaged and most disadvantaged students is even larger: 89 score points on average across the OECD and the same in Australia. This is the equivalent of around 2.7 years of schooling and more than one full proficiency level.

TABLE 2.1 Achievement on cognitive assessments, PISA 2018, Australia, by socioeconomic background

	Cognitive achievement					
	Reading literacy		Mathematical literacy		Scientific literacy	
	Mean	SE	Mean	SE	Mean	SE
Most disadvantaged	460	2.3	451	2.3	462	2.2
Socioeconomically average	505	2.1	492	2.2	505	2.2
Least disadvantaged	549	2.3	532	2.8	545	2.6

On average across OECD countries in 2018, 23% of 15-year-olds scored below Level 2 in reading literacy (low performers) (Table 2.2). In Australia, 20% of all PISA students scored at this level. However, this proportion was strongly associated with students' socioeconomic status. Across the OECD on average, some 36% of the most disadvantaged students were low performers, while only 11% of least disadvantaged students were (Table 2.2). In Australia, 31% of the most disadvantaged and 10% of least disadvantaged students were low performers in reading literacy.

On average for the OECD, the most disadvantaged students were 2.7 times more likely than all other students, and five times more likely than the least disadvantaged group of students, to be a low performer. In Australia, the odds were similar; the most disadvantaged students were 2.5 times more likely than all other students, and more than four times more likely than the least disadvantaged group of students, to be a low performer. While there were variations in the magnitude of this difference, the association between socioeconomic disadvantage and low performance was statistically significant in all comparison countries and economies, except Macao (China). Similarly, students in the least disadvantaged group were five times more likely than those in the most disadvantaged group to be high performers (above Level 5).

TABLE 2.2 Low and high performance in reading, by students' socioeconomic background

Country	All students				Most disadvantaged students				Least disadvantaged students				Increased likelihood of most disadvantaged students scoring below Level 2 in reading, relative to:			
	Percentage of low performers in reading (below Level 2)		Percentage of high performers in reading (Level 5 or above)		Percentage of low performers in reading (below Level 2)		Percentage of high performers in reading (Level 5 or above)		Percentage of low performers in reading (below Level 2)		Percentage of high performers in reading (Level 5 or above)		Non-disadvantaged students (3 other quarters of ESCS)		Advantaged students (highest quarter of ESCS)	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Australia	20	0.5	13	0.5	31	1.2	6	0.6	10	0.7	24	1.0	2.5	0.2	4.2	0.4
B-S-J-Z (China)	5	0.6	22	1.1	10	1.5	10	1.2	2	0.4	41	2.5	2.9	0.5	5.9	1.7
Canada	14	0.5	15	0.6	22	0.9	7	0.6	8	0.6	24	1.1	2.4	0.2	3.2	0.3
Chinese Taipei	18	0.8	11	0.8	30	1.5	4	0.6	9	1.0	23	2.0	2.7	0.2	4.5	0.6
Denmark	16	0.7	8	0.5	27	1.5	3	0.5	7	0.8	16	1.4	2.8	0.3	5.0	0.7
Estonia	11	0.6	14	0.7	16	1.3	7	1.2	6	0.8	24	1.4	1.9	0.2	2.9	0.4
Finland	14	0.7	14	0.7	21	1.4	6	0.9	7	0.8	26	1.7	2.3	0.2	3.8	0.6
Germany	21	1.1	11	0.7	34	2.4	3	0.8	7	1.0	28	1.8	3.4	0.3	7.1	1.2
Hong Kong (China)	13	0.8	15	0.7	18	1.4	9	0.9	7	1.0	24	1.9	2.0	0.2	2.7	0.5
Ireland	12	0.7	12	0.7	21	1.5	5	0.8	5	0.9	22	1.7	2.8	0.3	4.6	0.9
Japan	17	1.0	10	0.7	27	2.0	3	0.5	9	1.0	18	1.5	2.4	0.2	3.6	0.5
Korea	15	0.9	13	0.9	24	2.0	6	0.8	7	0.8	22	2.1	2.3	0.3	4.2	0.6
Macao (China)	11	0.5	14	0.6	12	1.0	10	1.0	9	1.0	20	1.5	1.2	0.2	1.4	0.2
New Zealand	19	0.8	13	0.6	31	1.5	5	0.8	8	0.9	25	1.5	2.8	0.2	5.2	0.7
Norway	19	0.8	11	0.6	30	1.7	4	0.6	13	1.1	20	1.3	2.4	0.2	2.9	0.3
Poland	15	0.8	12	0.8	24	1.6	4	0.6	6	1.0	25	2.0	2.5	0.3	4.8	0.9
Singapore	11	0.5	26	0.7	21	1.3	10	0.8	5	0.6	43	1.5	3.1	0.3	5.5	0.8
Sweden	18	1.0	13	0.7	30	1.8	5	0.8	10	1.2	25	1.6	2.8	0.3	4.0	0.6
United Kingdom	17	0.9	11	0.8	25	1.4	5	0.8	8	0.9	23	1.9	2.2	0.2	4.0	0.6
United States	19	1.1	14	0.9	30	2.1	4	0.8	8	1.3	27	2.0	2.4	0.3	4.8	0.9
OECD average-36	23	0.2	9	0.1	36	0.3	3	0.1	11	0.2	17	0.2	2.7	0.0	5.1	0.1

Socioeconomic gradients

The term 'socioeconomic gradient' refers to the relationship between an outcome and socioeconomic background. In the case of PISA, the outcome is students' performance and the measure of socioeconomic background is the Economic Social, and Cultural index (ESCS) index. PISA data shows that there is a significant relationship between students' performance and their socioeconomic background as measured by ESCS. This relationship is evident in Australia and all other PISA countries, although the strength of the relationship differs among countries. Using a graphical representation, the line of best fit for the points that represent performance against socioeconomic background (ESCS) provides information about several aspects of the relationship. This line is referred to as the socioeconomic or social gradient.

Figure 2.3 shows the socioeconomic gradient for Australia plotted with the average gradient of the OECD countries that took part in the PISA 2018 reading literacy assessment. It can be seen that the slope of the gradient for Australia follows the general pattern for the international population as a whole – that is, each increment on the PISA ESCS scale is associated with a roughly consistent increase in performance on the reading literacy scale.

Care should be taken in interpreting the association between achievement and socioeconomic background, however, especially when it is expressed as a single line as in Figure 2.3. The line represents an *average* indication of the association between achievement and socioeconomic background. If all students were situated on the line, it would mean that reading literacy achievement could be predicted accurately simply by knowing a student's socioeconomic background. This, however, is not the case, as there is a diverse range of scores that students achieve that do not fall on

the line. To illustrate the range of results that was obtained, 10% of students were randomly chosen from the Australian sample and their results plotted as points on the graph. Each point represents one student. It can be seen that there is a wide range of results, with a number of most disadvantaged students achieving high scores and, conversely, least disadvantaged students achieving low scores.

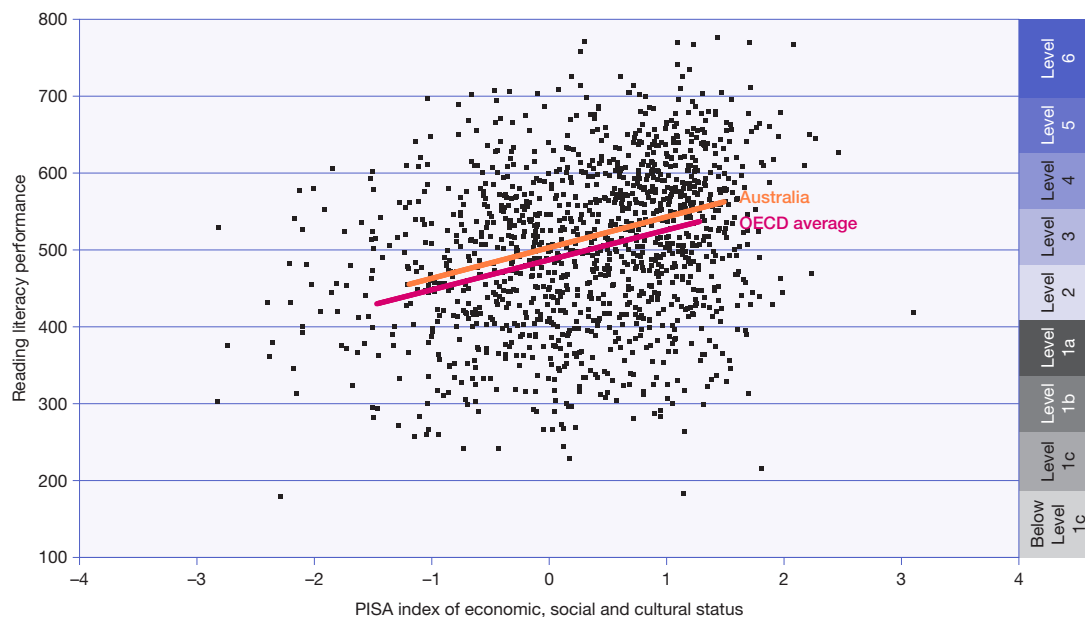


FIGURE 2.3 Students' socioeconomic status and average performance across comparison countries

The analysis of socioeconomic gradients is a means of characterising equity in terms of student performance and providing guidance for educational policy. Socioeconomic gradients can be used to compare the relationships between outcomes and student background between and within countries, and to examine changes in equity that occur from one cycle of PISA to another. Two of the key measures of this relationship are:

- ▶ The strength of the relationship between achievement and socioeconomic background, which refers to how well socioeconomic background predicts performance. It is important to consider how close individual results are to the line of best fit. In other words, are the points representing the performance and ESCS measures for all the individual students situated close to the line of best fit or are they widely scattered about it? The closer all the points are to the line of best fit, the greater the strength of the relationship. This aspect of the social gradient is represented by the percentage of the variation in performance that can be explained by the ESCS index. If the percentage is large, it indicates that performance is relatively highly determined by ESCS, whereas if it is small it indicates that performance is not highly determined by ESCS. Across OECD countries on average, the strength of the relationship between achievement in reading literacy and socioeconomic background is 12%, meaning that 12% of the variation in student performance is accounted for by socioeconomic background. In Australia, the strength of the relationship was 10%, meaning that about 10% of the variation in achievement was explained by socioeconomic background. This amount of variation was significantly lower than the OECD average.
- ▶ The slope of the gradient line refers to the impact of socioeconomic background on performance. A steeper slope indicates a greater impact of socioeconomic background on performance such that there is a bigger difference in performance between low socioeconomic background students and high socioeconomic background students than in systems with flatter slopes. Education systems typically aim to decrease the differences in performance between different social groups. Greater equity would thus be indicated by a flatter gradient. The slope of the gradient line for Australia for reading literacy was 38, meaning an increase of 38 score points on the assessment for every one unit increase in ESCS. This was not significantly different to the OECD average of 37.

The slope and the strength of the gradient measure different aspects of the relationship between socioeconomic background and performance. If the slope of the gradient is steep and the strength of the relationship between socioeconomic background and performance is strong, the challenges for systems are the greatest. That is, students in these systems are more likely to perform at a level determined by their socioeconomic background and there is a greater performance differential between students from the most advantaged and least advantaged backgrounds. In Australia, it would seem that this is not the case – that while it does happen to some extent, there are many exceptions.

Also important to consider are:

- ▶ The average level of the line in the graph. This gives an indication of how well the overall population has achieved on the given assessment. Lines at higher levels indicate higher mean performance by the students.
- ▶ The length of the line, which indicates the range of ESCS. The graphs in this chapter are plotted between the 5th percentile of ESCS and the 95th percentile of ESCS, that is, the graphs span the middle 90% of the values of ESCS for each country. A smaller range indicates less difference in socioeconomic background between students from the highest and lowest socioeconomic backgrounds in the country. The range can be measured by projecting the starting point and finishing point of the gradient onto the horizontal axis.

Figure 2.4 displays the socioeconomic gradients for the Australian jurisdictions, and Table 2.3 provides the underlying data for this figure. At the very lowest levels of socioeconomic background, students in all other jurisdictions scored higher on reading literacy than students in the Northern Territory; however, at the highest levels of ESCS the average score in the Northern Territory was indistinguishable from that of the other jurisdictions, with the exception of being lower than that of the Australian Capital Territory and higher than that of South Australia. ESCS ranged to lower levels in Tasmania and highest levels in the Australian Capital Territory. The relationship between performance and socioeconomic background (strength) is weaker than the Australian average in South Australia, while the impact of ESCS on performance (slope) is higher than the Australian average in the Australian Capital Territory and the Northern Territory. For these two jurisdictions, one unit increase in ESCS is reflected in an increase in PISA reading literacy score by 55 and 54 points respectively. In comparison, in South Australia a one unit increase only gains a student a 31 point advantage.

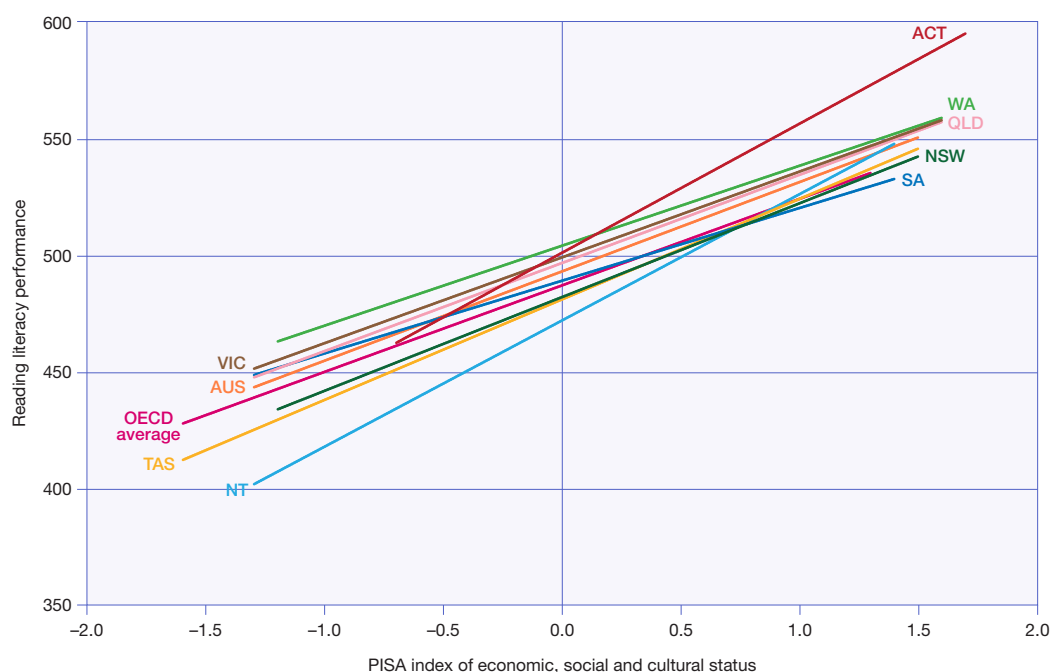


FIGURE 2.4 Socioeconomic gradients for Australia and the jurisdictions

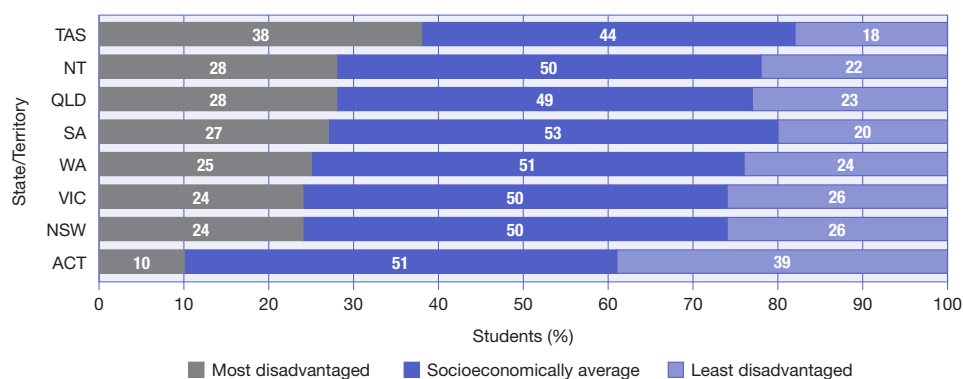
TABLE 2.3 Socioeconomic relationships for the Australian states and territories

State/Territory	Adjusted average score	SE	Average ESCS	Strength of the relationship between student performance and the ESCS	Slope of the socioeconomic gradient	Length of the projection of the gradient line	
				Percentage of explained variance in student performance	Score point difference associated with one unit increase in the ESCS	5th percentile of the ESCS Index	95th percentile of the ESCS Index
ACT	501	5.9	0.706	14.3	55	-0.7	1.7
NSW	482	3.4	0.331	10.8	40	-1.2	1.5
VIC	499	3.4	0.353	9.8	37	-1.3	1.6
QLD	496	3.0	0.275	9.9	38	-1.3	1.6
SA	489	3.2	0.228	6.6	31	-1.3	1.4
WA	504	3.7	0.301	8.4	34	-1.2	1.6
TAS	481	4.8	-0.003	13.8	43	-1.6	1.5
NT	472	7.1	0.230	18.0	54	-1.3	1.4

Some caution should be used when comparing the results for the jurisdictions. The average ESCS (column 4) shows that the Australian Capital Territory schooling system caters for a much different clientele than the Tasmanian system, for example. The second column of Table 2.3 provides the average score for each jurisdiction accounting for the effect of ESCS in that jurisdiction (over the OECD, ESCS is standardised so that the average student has an ESCS of 0 with a standard deviation of 1).

This is further explained by Figure 2.5, which shows the proportion of the most disadvantaged, socioeconomically average and the least disadvantaged students in each jurisdiction.

Tasmanian schools enrol by far the highest proportion of the most disadvantaged students, with 38% falling in this category and just 18% in the least disadvantaged group. In comparison, the population in schools in the Australian Capital Territory is skewed in the opposite direction, with 10% of its students in the most disadvantaged group, and 39% in the least disadvantaged group.

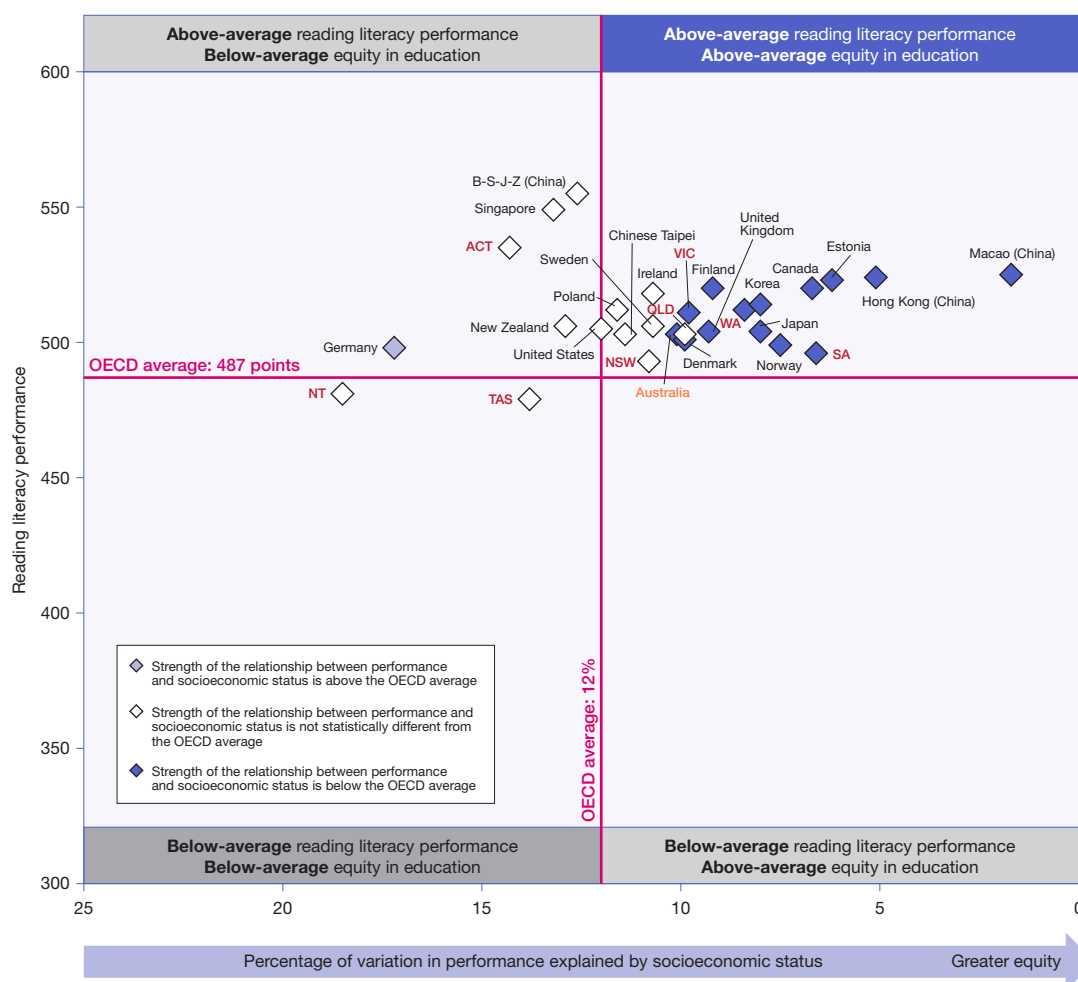
**FIGURE 2.5** Proportion of each ESCS group by state and territory

There are many differences in the extent to which countries are able to moderate the association between socioeconomic background and performance; however, the ideal school system is one in which there is high achievement among all students, regardless of socioeconomic background. The relationship between equity and mean reading literacy for the comparison countries in PISA 2018 is shown in Figure 2.6. The horizontal axis represents the strength of the relationship between socioeconomic background and performance, used as a proxy for equity in the distribution of learning opportunities. Countries like Macao (China), Hong Kong (China) and Estonia in which the strength of the relationship between socioeconomic background and performance is significantly lower than for the OECD on average are plotted to the right of the line that delineates the average strength of the relationship across the OECD. Mean performance is plotted on the vertical axis, with the line at 487 representing the OECD average.

Countries whose performance places them in the top right-hand quadrant, with reading literacy scores **higher** than the OECD average and the strength of the relationship between socioeconomic background **lower** than that of the OECD, are classified as High Quality – High Equity. Similarly, countries to the left of the OECD average slope line have a **higher** impact of socioeconomic background than the OECD average, and so are classified as Low Equity, with those achieving at a higher level than the OECD average classed as High Quality and those below as Low Quality. As with all data there are confidence intervals. The markers on Figure 2.5 indicate whether the difference between the score for the country and the OECD average for equity is significant or not.

Australia and ten of the countries that outperformed Australia in PISA 2018 (Canada, Denmark, Estonia, Finland, Hong Kong (China), Japan, Korea, Macao (China), Norway and the United Kingdom) all achieved high performance with a weaker influence of socioeconomic background. In a further eight countries, the difference between performance and influence of socioeconomic background was not significant, and only in Germany was it significantly higher than the OECD average.

The figure also shows the levels of quality and equity for the Australian states. Western Australia, Victoria and South Australia achieved a higher level than the OECD average but socioeconomic background was lower than the OECD average, making them High Quality – High Equity. In other jurisdictions, the level of equity was the same as the OECD average.



Note: Socioeconomic status is measured by the PISA index of economic, social and cultural status.

FIGURE 2.6 Strength of the socioeconomic gradient and reading literacy performance

High performers and socioeconomic background

Differences in achievement related to socioeconomic background are even more evident when comparisons are made not only of average performance, but of achievement at the highest proficiency levels. On average across OECD countries, around 9% of students were high performers in reading literacy in PISA 2018, meaning that they attained Level 5 or 6 in the PISA reading test. At these levels, students can comprehend lengthy texts, deal with concepts that are abstract or counterintuitive, and establish distinctions between fact and opinion, based on implicit cues pertaining to the content or source of the information.

Across the OECD on average, though, only 3% of disadvantaged students, compared with 17% of advantaged students, attained these levels of performance. In Australia, 6% of the most disadvantaged students are high performers, compared to 24% of the least disadvantaged students.

In general, the countries with the largest proportions of high performers were also those that achieved high levels of performance among all of their students. However, within countries, there were large differences, related to socioeconomic background, in the probability of achieving the highest levels of performance. For instance, while around 10% of most disadvantaged students in B-S-J-Z (China) and Singapore were high performers in reading (the largest proportion observed among all participating countries and economies), as was the case in Australia, four times as many of the least disadvantaged group of students attained that level of performance. This suggests that even in high-performing school systems social inequities may be perpetuated.

The index of inequality measures how high performers are concentrated along the national distribution of ESCS, by 'ranking' all students by their level of socioeconomic background. It considers only the relationship between the probability of being a high performer and where the student is located in the distribution of socioeconomic background within his or her country; it does not consider the variability of socioeconomic background or the degree of socioeconomic inequality within the country. The index ranges from -1 to 1. The more the index varies from 0, the more strongly performance is related to socioeconomic background. A negative value means that those students at the bottom of the socioeconomic distribution are over-represented among high performers in reading; a positive value means that students at the top of the socioeconomic distribution in their countries are over-represented among high performers.

Figure 2.7 shows this index alongside the proportion of high performers in the comparison countries. In all countries, the index is positive, meaning that the high performers were more often among those at the top of the socioeconomic distribution in their country. The extent of socioeconomic disparities in the probability of being a high performer was also negatively related to the proportion of high performers in the school system (the R^2 is 0.25). On average across OECD countries, the value of the index was 0.42. The highest level of the index among the comparison countries, 0.46, was observed in Germany, where 11% of students were high performers in reading literacy. However, the socioeconomic disparities in high performance were far from perfectly predicted by the proportions of high performers among the population of 15-year-old students: even among Australia and the 18 comparison countries where the proportions of high performers were larger than the OECD average, the index of socioeconomic disparities ranged from 0.18 in Macao (China) to 0.46 in Germany. In Australia, the value of the index was 0.34.

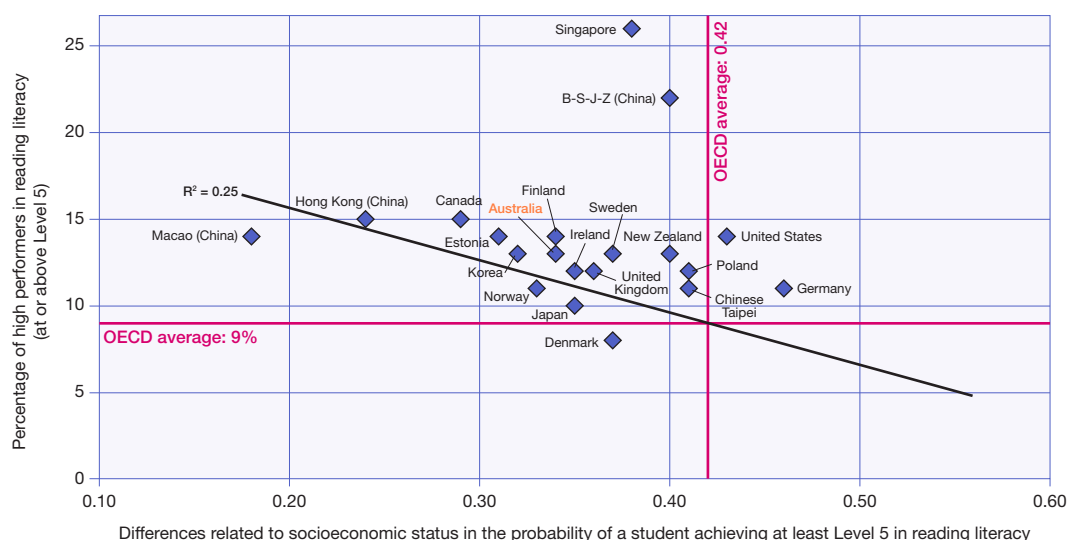
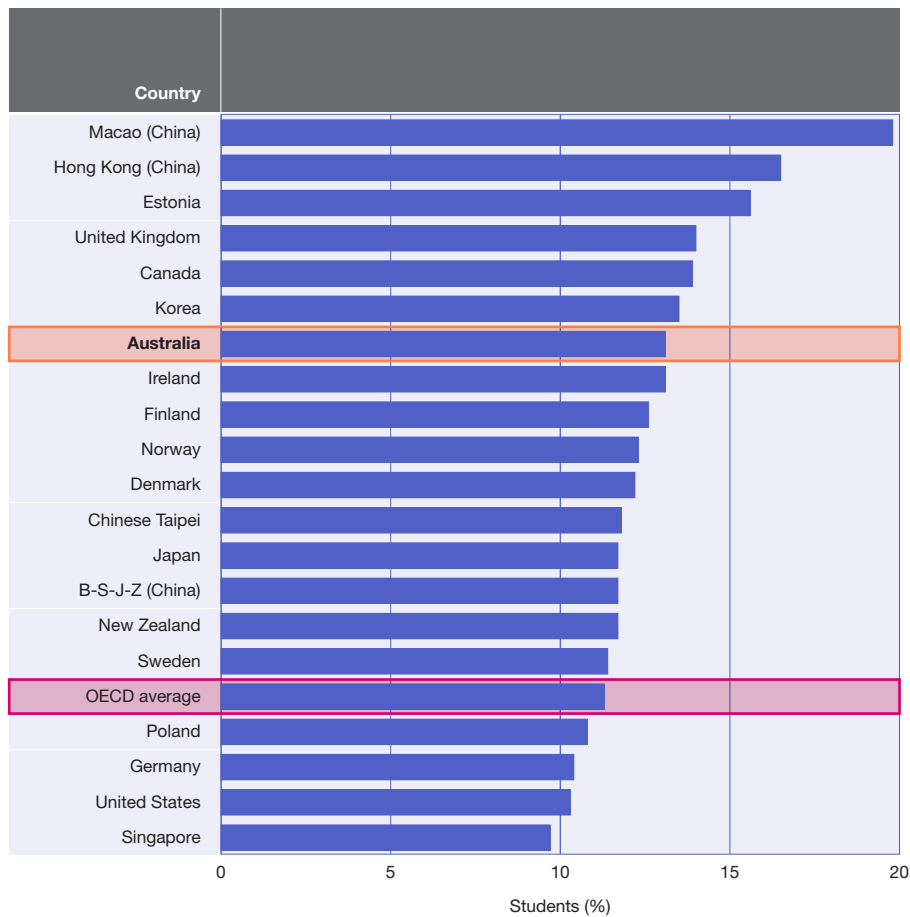


FIGURE 2.7 Differences in high performance related to socioeconomic status and percentage of high performers

Academic resilience

While the general trend over all OECD countries is for socioeconomic background to be positively associated with performance, whether it is at all levels of performance or more strongly with some than others, there are always exceptions. A proportion of students overcome their socioeconomic background and go on to sustain high academic performance. These have been labelled by the OECD as ‘resilient students’. While all students face difficulties of one sort or another, it has been demonstrated that the most disadvantaged students are more likely to be low performers at school. The most disadvantaged students often have poorly-educated parents who work in lower-paid and less-prestigious jobs; and they often lack educational and material resources at home. These students are also more likely to attend disadvantaged schools that are equipped with fewer resources and to speak at home a language that is different from the language spoken at school. According to PISA, a student can be classed as academically resilient if they score in the bottom quarter of the PISA ESCS index but in the top quarter of achievement in their country. The percentage of resilient students across the comparison countries is shown in Figure 2.8.

On average across OECD countries, about 11%, and in Australia, 13% of disadvantaged students were academically resilient. This proportion varied widely, even among this subset of countries. In Macao (China) almost 20% of students were academically resilient, while in Singapore, a little less than 10% could be classified in this way. Academic resilience reflects the extent to which performance is associated with socioeconomic disadvantage. The weaker the association, the larger the proportion of disadvantaged students who end up performing in the highest quarter of reading literacy proficiency.



Note: Countries are ranked in descending order of the percentage of academically resilient students.

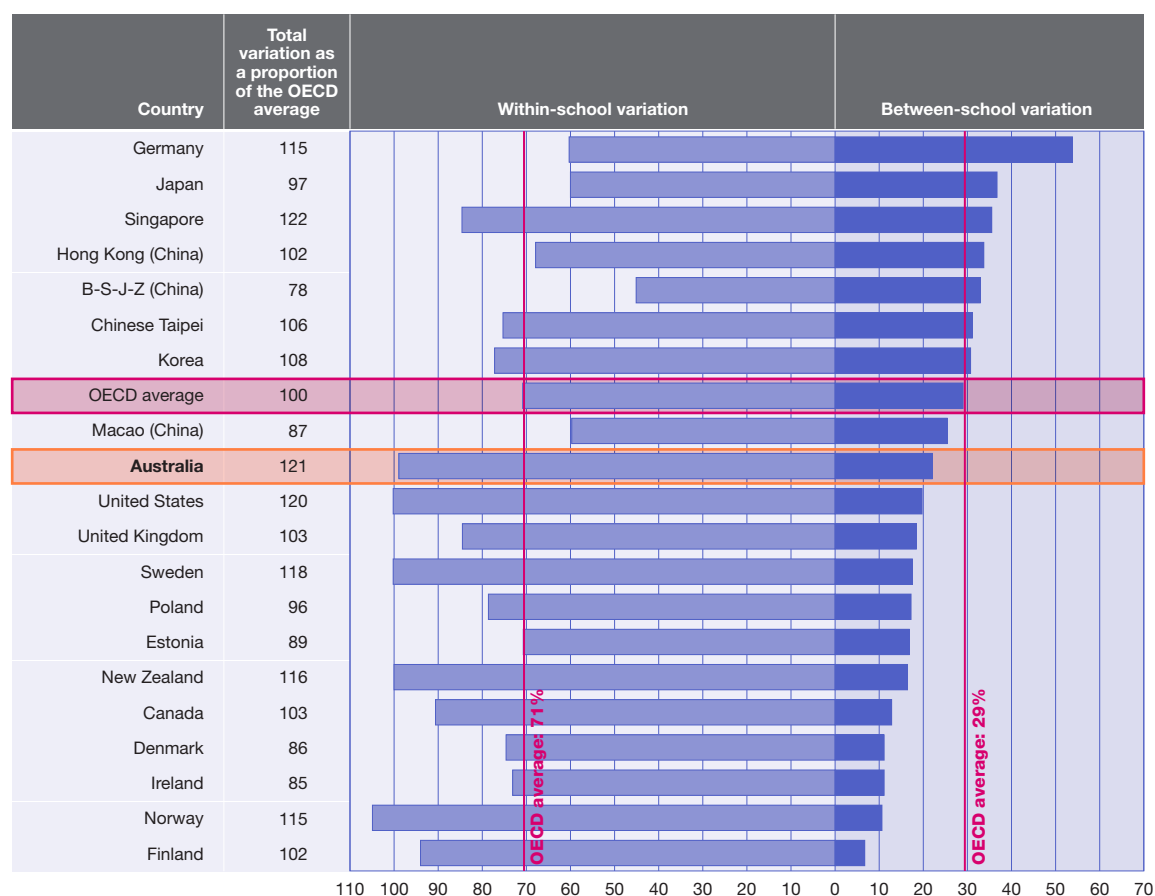
FIGURE 2.8 Percentage of resilient students

The relationship between performance and socioeconomic background between and within schools

Ensuring consistently high standards across schools is a challenge for all school systems. Performance differences may be due to the socioeconomic composition of the school's student population or other characteristics of the student body. In Australia, these differences are most evident when examining differences between schools in the three different sectors.

Figure 2.9 shows the proportion of variance in achievement for each of the comparison countries in PISA 2018 divided into the amount of variation that occurs between schools (i.e. the performance variation attributable to differences in student results in different schools) and the amount of variance that occurs within schools (i.e. the performance variation attributable to the range of student results that cannot be attributed to differences between schools).

In PISA 2018, 29% of the OECD average variation in reading literacy performance was observed between schools (right side of Figure 2.9); the remaining part of the variation was observed within schools (left side of the figure). The extent of between-school variation in reading literacy performance differed widely across school systems, even in the selected countries, all of which have high levels of reading achievement. In Canada, Denmark, Finland, Ireland, and Norway between-school differences accounted for less than 15% of the total variation in performance. In these countries, parents and students can expect that students can achieve at high levels no matter which school they attend. In Germany, a highly tracked system, between-school differences accounted for 54% of the total variation on student performance. In Australia, the variation was 22%. There are differences between schools in Australia that could have important implications for parents in terms of which school to send their child.



Note: Countries are ranked in descending order of the between-school variation in reading literacy performance, as a percentage of the total variation in performance across OECD countries.

FIGURE 2.9 Variation in reading literacy performance between and within schools, internationally

Sense of belonging at school

Students' sense of belonging relates to 'being accepted and valued by their peers, and by others at their school' (Willms, 2003, p.8), and has been identified as an important influence on school functioning, including academic motivation (Goodenow, 1993), academic outcomes (Becker & Luthar, 2002) and participation (Goodenow & Grady, 1993).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in students' sense of belonging at school. It also explores the change in sense of belonging over a 6-year period, and the relationship between sense of belonging and reading literacy performance.

Key findings

- On average, Australian students reported similar levels of sense of belonging at school to students in New Zealand, the United Kingdom, B-S-J-Z (China), Canada and Singapore, and a weaker sense of belonging than the OECD average.
- On average, over two-thirds of Australian students agreed or strongly agreed with the statements *I make friends easily at school*, *I feel like I belong at school* and *other students seem to like me*.
- On average, approximately one-quarter of Australian students agreed or strongly agreed with the statement *I feel like an outsider (or left out of things) at school* and *I feel awkward and out of place in my school*.
- On average, one-fifth of Australian students agreed or strongly agreed with the statement *I feel lonely at school*.
- Student reports of sense of belonging deteriorated between PISA 2012 and 2018. For instance, there was a 10 percentage point decrease for Australian students who agreed or strongly agreed that *I feel like I belong at school* and a 12 percentage point increase for Australian students who agreed or strongly agreed with the statement *I feel like an outsider (or left out of things) at school*.

- ➔ Students in Victoria reported similar levels of sense of belonging to students in New South Wales, and a greater sense of belonging than students in the other jurisdictions.
- ➔ Students in Catholic and independent schools reported similar levels of sense of belonging, and a greater sense of belonging than students in government schools.
- ➔ Male students reported a greater sense of belonging than female students.
- ➔ The least disadvantaged students reported a greater sense of belonging than the most disadvantaged students.
- ➔ Students in metropolitan schools reported a greater sense of belonging than students in provincial and remote schools. Students in provincial schools reported having similar levels of sense of belonging to students in remote schools.
- ➔ Non-Indigenous students reported a greater sense of belonging than Indigenous students.
- ➔ First-generation students reported a greater sense of belonging than Australian-born students. Foreign-born students reported similar levels of sense of belonging to Australian-born and first-generation students.
- ➔ Students in the highest quartile of the sense of belonging index scored on average 23 points higher (around two-thirds of a year of schooling) in reading literacy performance than students in the lowest quartile.

How is sense of belonging at school measured in PISA?

Students' sense of belonging at school was measured by asking students to rate their level of agreement to the following statements:

- ▶ *I feel like an outsider (or left out of things) at school.*
- ▶ *I make friends easily at school.*
- ▶ *I feel like I belong at school.*
- ▶ *I feel awkward and out of place in my school.*
- ▶ *Other students seem to like me.*
- ▶ *I feel lonely at school.*

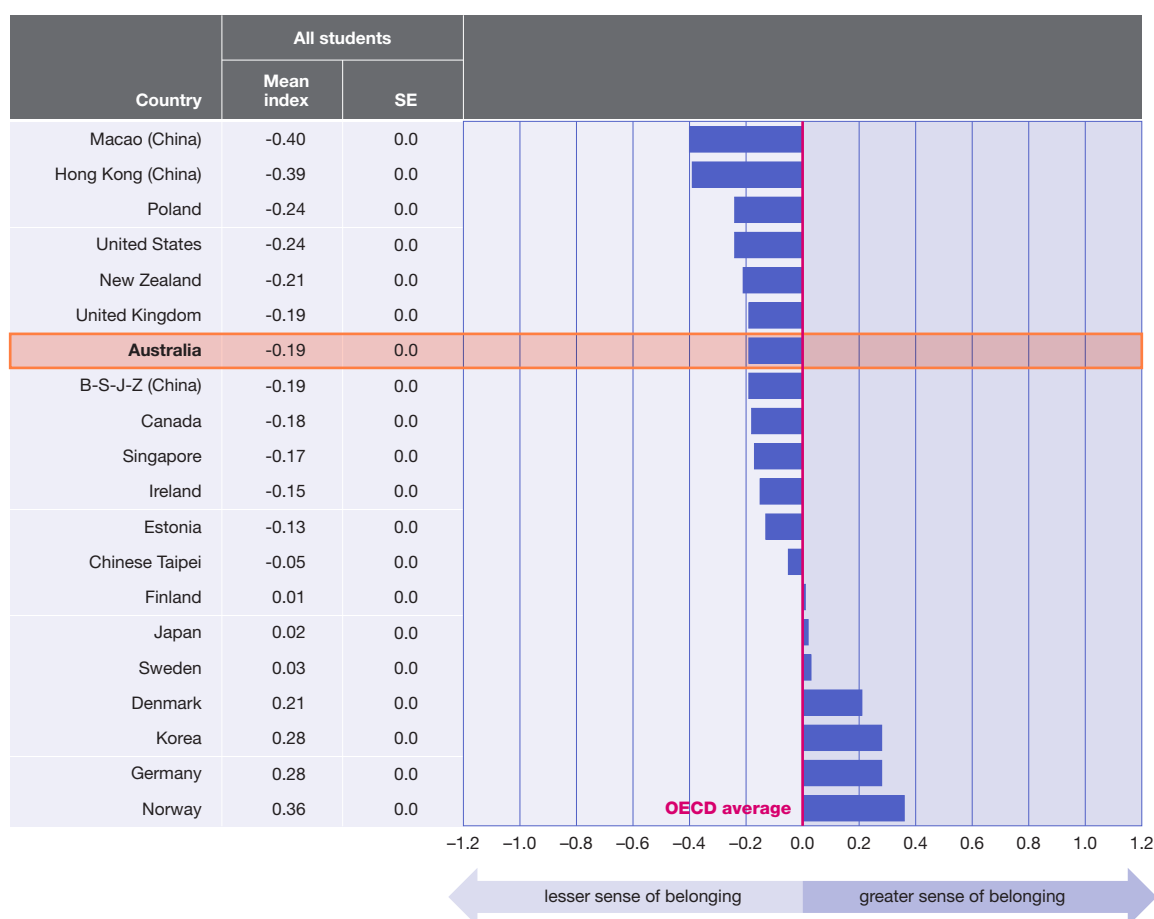
Students were asked to respond to each of the statements on a four-point scale (*strongly agree, agree, disagree, strongly disagree*). The second, third and fifth statements were worded from a positive perspective, so that higher levels of agreement reflect a greater sense of belonging. On the other hand, the first, fourth and sixth items were worded from a negative perspective, so that lower levels of agreement reflect a greater sense of belonging.

An index of sense of belonging at school was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Higher values on the index are illustrative of students feeling a greater sense of belonging at school than on average across the OECD, while lower values are indicative of students feeling a lesser sense of belonging than on average across the OECD.

Sense of belonging at school in an international context

Figure 3.1 shows the mean index scores for Australia, the comparison countries, and the OECD average on the sense of belonging index.

Students in Macao (China), Hong Kong (China), Poland and the United States reported a weaker sense of belonging than Australian students, while students in New Zealand, the United Kingdom, B-S-J-Z (China), Canada and Singapore reported similar levels of sense of belonging at school. Students from the other comparison countries reported a stronger sense of belonging. The mean index score of -0.19 for Australia was lower than the OECD average of 0.00.



Note: Countries with the lowest mean score on the sense of belonging at school index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 3.1 Sense of belonging at school index, for Australia and comparison countries

Figure 3.2 shows the percentage of students who reported their agreement with statements related to sense of belonging, for Australia and the comparison countries.

- ▶ Seventy-six per cent of Australian students agreed²⁵ with the statement *I make friends easily at school*. This percentage was similar for Korea, Sweden, Ireland, Hong Kong (China), Finland, Canada, New Zealand, and students on average across OECD countries. The percentage of students who agreed was higher in Norway, B-S-J-Z (China), Denmark, Chinese Taipei, and Singapore, and lower in the United Kingdom, the United States, Germany, Estonia, Macao (China), Poland and Japan.
- ▶ Sixty-eight per cent of Australian students agreed with the statement *I feel like I belong at school*. This percentage was similar for students in New Zealand, Canada, the United States, Sweden and Ireland. The percentages of students who agreed were higher for students from Chinese Taipei, Japan, Korea, Norway, Finland, Germany, Estonia, Singapore, Denmark and the OECD average, and lower for students from Hong Kong (China), B-S-J-Z (China), the United Kingdom, Poland and Macao (China).
- ▶ Eighty-five per cent of Australian students agreed with the statement *other students seem to like me*. This percentage was similar for Germany, Canada, the United Kingdom, the United States and New Zealand. The percentages of students who agreed was higher for Ireland, and lower for the remaining 13 comparison countries and students on average across the OECD countries.

25 For ease of reading, from this point onward 'agreed' or 'strongly agreed' will be referred to as 'agreed'.

- ▶ Twenty-seven per cent of Australian students agreed with the statement *I feel like an outsider (or left out of things) at school*. This percentage was similar in Canada and New Zealand. The percentages of students who agreed was higher for the United States and Hong Kong (China), and lower for the remaining 15 comparison countries, and students on average across the OECD countries.
- ▶ Twenty-five per cent of Australian students agreed with the statement *I feel awkward and out of place in my school*. This percentage was similar for Canada, Macao (China), Singapore, New Zealand, and the United Kingdom. The percentages of students who agreed was higher for the United States, and lower for the remaining 13 comparison countries, and students on average across the OECD countries.
- ▶ Nineteen per cent of Australian students agreed with the statement *I feel lonely at school*. This percentage was similar for Canada, B-S-J-Z (China), Poland, and New Zealand. The percentages of students who agreed was higher in the United States, Macao (China), and Hong Kong (China), and lower in the remaining 12 comparison countries, and for students on average across the OECD countries.

Country	Percentage of students who reported agree or strongly agree					
	I make friends easily at school	I feel like I belong at school	Other students seem to like me	I feel like an outsider (or left out of things) at school	I feel awkward and out of place in my school	I feel lonely at school
Macao (China)	70	56	62	23	25	23
Hong Kong (China)	76	66	72	29	23	22
Poland	70	60	73	21	23	19
United States	72	67	85	31	28	24
New Zealand	74	68	85	26	24	18
United Kingdom	73	62	85	25	24	16
Australia	76	68	85	27	25	19
B-S-J-Z (China)	79	65	66	19	17	20
Canada	74	67	86	26	26	20
Singapore	78	73	82	23	24	17
Ireland	76	67	89	22	22	14
Estonia	71	74	71	16	19	16
Chinese Taipei	78	85	63	14	20	15
Finland	75	75	78	15	22	14
Japan	69	80	74	13	20	12
Sweden	77	67	79	20	17	16
Denmark	79	72	84	11	13	11
Korea	77	78	81	11	13	10
Germany	72	75	86	16	16	12
Norway	82	77	82	12	18	14
OECD average	75	71	63	20	20	16

Note: Countries are listed from the lowest to highest mean score on the sense of belonging at school index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 3.2 Percentage of students who reported their agreement on aspects of sense of belonging at school, for Australia and comparison countries

In PISA 2012, students were asked the same questions about their perceptions of sense of belonging at school. Figure 3.3 shows the percentage of Australian PISA 2012 students who reported their agreement on aspects of sense of belonging, along with the change in the percentage of students between PISA 2012 and 2018, and the significance of this change.

A comparison between the two cycles reveals that student reports of sense of belonging generally deteriorated during this 6-year period. The percentage of Australian students who agreed with the statement *I make friends easily at school* decreased by 9 percentage points, *I feel like I belong at school* decreased by 10 percentage points, and *other students seem to like me* decreased by 7 percentage points.

The percentage of Australian students who agreed with the statement *I feel like an outsider (or left out of things) at school* increased by 12 percentage points, *I feel awkward and out of place in my school* increased by 10 percentage points, and *I feel lonely at school* increased by 7 percentage points.

Percentage of students who reported agree or strongly agree											
I make friends easily at school		I feel like I belong at school		Other students seem to like me		I feel like an outsider (or left out of things) at school		I feel awkward and out of place in my school		I feel lonely at school	
2012	Change over time	2012	Change over time	2012	Change over time	2012	Change over time	2012	Change over time	2012	Change over time
85	▼ 9 pp	78	▼ 10 pp	92	▼ 7 pp	15	▲ 12 pp	15	▲ 10 pp	12	▲ 7 pp

Notes: Change over time represents the percentage point (pp) difference between PISA 2018 and 2012.

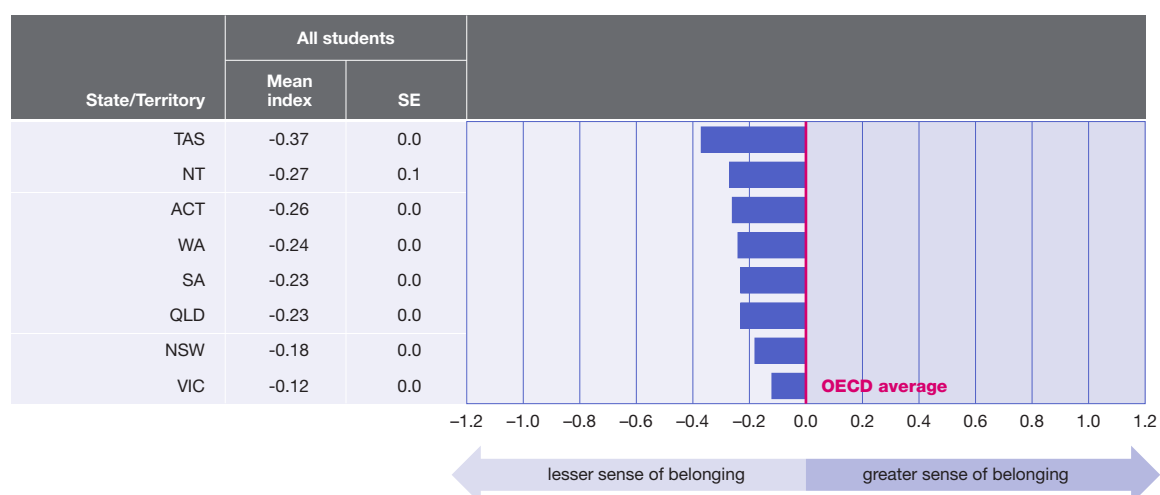
▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 3.3 Percentage of Australian students who reported their agreement on aspects of sense of belonging at school in PISA 2012, and the difference between PISA 2012 and 2018, for Australia

Sense of belonging at school in a national context

Students in Victoria reported similar levels of sense of belonging as students in New South Wales, and a greater sense of belonging than students in the other jurisdictions. Students in Tasmania, the Northern Territory and the Australian Capital Territory reported similar levels of sense of belonging at school (Figure 3.4).



Note: Jurisdictions with the lowest mean score on the sense of belonging at school index are placed at the top of the figure and jurisdictions with the highest mean score on the index are placed at the bottom.

FIGURE 3.4 Sense of belonging at school index, by state and territory

Figure 3.5 presents the percentages of students who reported their agreement with statements related to sense of belonging for the jurisdictions.

Most students across the jurisdictions reported that they felt socially connected at school.

- ▶ Sixty-nine per cent of students in Tasmania to 77% of students in New South Wales agreed with the statement *I make friends easily at school*.
- ▶ Sixty-four per cent of students in Tasmania to 72% of students in the Australian Capital Territory agreed with *I feel like I belong at school*.
- ▶ Eighty-one per cent of students in Tasmania to 87% of students in Victoria agreed with *other students seem to like me*.
- ▶ Twenty-four per cent of students in Victoria to 33% of students in Tasmania agreed with *I feel like an outsider (or left out of things) at school*.

- ▶ Twenty-four per cent of students in Victoria and New South Wales to 30% of students in Tasmania agreed with *I feel awkward and out of place in my school*.
- ▶ Seventeen per cent of students in Victoria to 25% of students in Tasmania agreed with *I feel lonely at school*.

State/Territory	Percentage of students who reported agree or strongly agree					
	I make friends easily at school	I feel like I belong at school	Other students seem to like me	I feel like an outsider (or left out of things) at school	I feel awkward and out of place in my school	I feel lonely at school
TAS	69	64	81	33	30	25
NT	76	66	86	29	25	23
ACT	72	72	85	30	26	24
WA	74	65	85	28	25	20
SA	74	68	84	30	29	21
QLD	76	67	84	29	25	20
NSW	77	68	85	27	24	19
VIC	76	71	87	24	24	17

Note: Jurisdictions are listed from the lowest to highest mean score on the sense of belonging index.

FIGURE 3.5 Percentage of students who reported their agreement on aspects of sense of belonging at school, by state and territory

Figure 3.6 shows the perceptions of students' sense of belonging from PISA 2012 to 2018 has declined over a 6-year period across all jurisdictions. The percentage of students who agreed with the statements:

- ▶ *I make friends easily at school* decreased from 8 percentage points in the Northern Territory to 16 percentage points in the Australian Capital Territory.
- ▶ *I feel like I belong at school* decreased from 6 percentage points in the Northern Territory to 13 percentage points in the Australian Capital Territory and Tasmania.
- ▶ *Other students seem to like me* decreased from 5 percentage points in Western Australia to 8 percentage points in the Australian Capital Territory and Tasmania.
- ▶ *I feel like an outsider (or left out of things) at school* increased from 11 percentage points in New South Wales, Victoria, and the Northern Territory to 18 percentage points in the Australian Capital Territory.
- ▶ *I feel awkward and out of place in my school* increased from 8 percentage points in New South Wales and Queensland to 15 percentage points in the Australian Capital Territory.
- ▶ *I feel lonely at school* increased from 6 percentage points in New South Wales and Victoria to 14 percentage points in the Australian Capital Territory.

State/Territory	Percentage of students who reported agree or strongly agree					
	I make friends easily at school		I feel like I belong at school		Other students seem to like me	
	2012	Change over time	2012	Change over time	2012	Change over time
TAS	82	▼ 13 pp	77	▼ 13 pp	89	▼ 8 pp
NT	84	▼ 8 pp	72	▼ 6 pp	89	▽ 3 pp
ACT	88	▼ 16 pp	85	▼ 13 pp	93	▼ 8 pp
WA	84	▼ 10 pp	76	▼ 11 pp	90	▼ 5 pp
SA	84	▼ 10 pp	78	▼ 10 pp	90	▼ 6 pp
QLD	86	▼ 10 pp	76	▼ 9 pp	91	▼ 7 pp
NSW	86	▼ 9 pp	77	▼ 9 pp	92	▼ 7 pp
VIC	86	▼ 10 pp	81	▼ 10 pp	93	▼ 6 pp

State/Territory	I feel like an outsider (or left out of things) at school		I feel awkward and out of place in my school		I feel lonely at school	
	2012	Change over time	2012	Change over time	2012	Change over time
	2012	Change over time	2012	Change over time	2012	Change over time
TAS	16	▲ 17 pp	16	▲ 14 pp	13	▲ 12 pp
NT	18	▲ 11 pp	15	▲ 10 pp	16	△ 7 pp
ACT	12	▲ 18 pp	11	▲ 15 pp	10	▲ 14 pp
WA	15	▲ 13 pp	14	▲ 11 pp	11	▲ 9 pp
SA	14	▲ 16 pp	15	▲ 14 pp	12	▲ 9 pp
QLD	15	▲ 14 pp	17	▲ 8 pp	11	▲ 9 pp
NSW	16	▲ 11 pp	16	▲ 8 pp	13	▲ 6 pp
VIC	13	▲ 11 pp	14	▲ 10 pp	11	▲ 6 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 3.6 Percentage of students who reported their agreement on aspects of sense of belonging at school in PISA 2012, and the difference between PISA 2012 and 2018, by state and territory

Students in Catholic and independent schools reported similar levels of sense of belonging, and a greater sense of belonging than students in government schools (Figure 3.7).

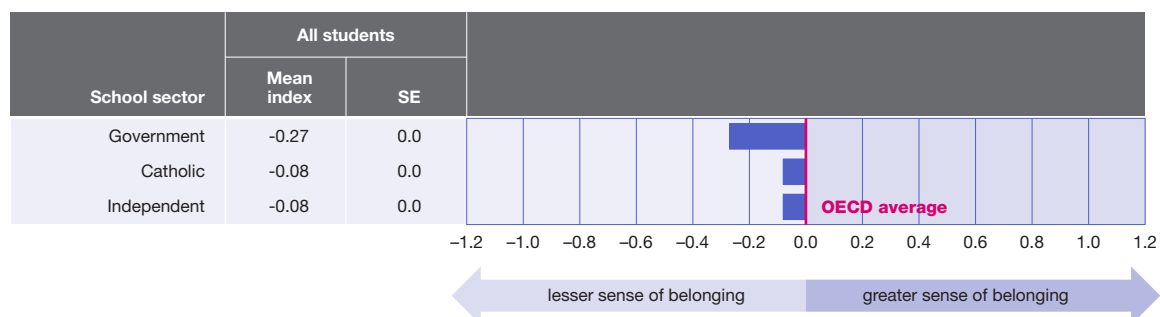


FIGURE 3.7 Sense of belonging at school index, by school sector

Figure 3.8 shows there was a higher percentage of students in Catholic and independent schools who reported their agreement on each of the statements about sense of belonging than students in government schools. There was a similar percentage of students in Catholic and independent schools who agreed with these statements.

School sector	Percentage of students who reported <i>agree or strongly agree</i>					
	I make friends easily at school	I feel like I belong at school	Other students seem to like me	I feel like an outsider (or left out of things) at school	I feel awkward and out of place in my school	I feel lonely at school
Government	73	65	82	30	27	21
Catholic	79	74	90	23	22	17
Independent	78	72	89	23	22	17

FIGURE 3.8 Percentage of students who reported their agreement on aspects of sense of belonging at school, by school sector

Figure 3.9 shows that sense of belonging generally deteriorated between PISA 2012 and 2018 for students across all school sectors. There were fewer students in 2018, regardless of school sector, who agreed with the statements *I make friends easily at school*, *I feel like I belong at school*, and *other students seem to like me*. This ranged from a 3 percentage point decrease for students in independent schools who agreed that *other students seem to like me* to an 11 percentage point decrease for students in government schools who agreed with *I make friends easily at school* and *I feel like I belong at school*.

There were more students in 2018, regardless of school sector, who agreed with the statements *I feel like an outsider (or left out of things) at school*, *I feel awkward and out of place in my school*, and *I feel lonely at school*. This ranged from a 5 percentage point increase for students in independent schools who agreed with *I feel lonely at school* to a 14 percentage point increase for students in government schools who agreed with *I feel like an outsider (or left out of things) at school*.

School sector	Percentage of students who reported <i>agree or strongly agree</i>					
	I make friends easily at school		I feel like I belong at school		Other students seem to like me	
	2012	Change over time	2012	Change over time	2012	Change over time
Government	84	▼ 11 pp	76	▼ 11 pp	90	▼ 8 pp
Catholic	88	▼ 9 pp	82	▼ 8 pp	95	▼ 5 pp
Independent	85	▼ 7 pp	82	▼ 10 pp	92	▼ 3 pp

School sector	I feel like an outsider (or left out of things) at school		I feel awkward and out of place in my school		I feel lonely at school	
	2012	Change over time	2012	Change over time	2012	Change over time
	2012	Change over time	2012	Change over time	2012	Change over time
Government	16	▲ 14 pp	16	▲ 11 pp	13	▲ 8 pp
Catholic	12	▲ 11 pp	13	▲ 9 pp	9	▲ 8 pp
Independent	13	▲ 10 pp	14	▲ 8 pp	12	▲ 5 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 3.9 Percentage of students who reported their agreement on aspects of sense of belonging at school in PISA 2012, and the difference between PISA 2012 and 2018, by school sector

Sense of belonging at school for different demographic groups in a national context

Figure 3.10 shows the mean index scores on the sense of belonging at school index for students from different demographic groups.

- ▶ Male students reported a greater sense of belonging than female students.
- ▶ The least disadvantaged students reported a greater sense of belonging than the most disadvantaged students.

- ▶ Students in metropolitan schools reported a greater sense of belonging than students in provincial and remote schools, while students in provincial schools and remote schools reported having similar levels of sense of belonging.
- ▶ Non-Indigenous students reported a greater sense of belonging than Indigenous students.
- ▶ First-generation students reported a greater sense of belonging than Australian-born students. Foreign-born students reported similar levels of sense of belonging to Australian-born and first-generation students.

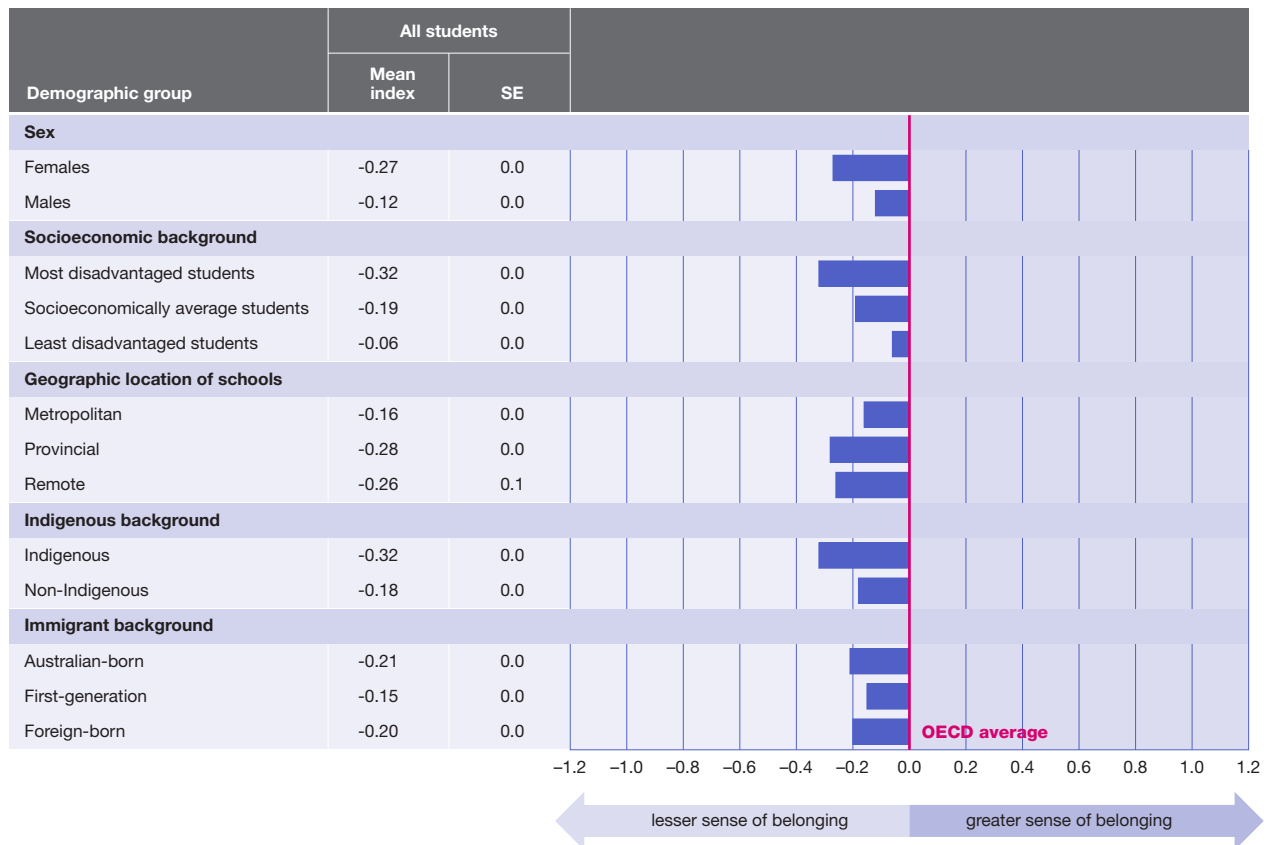


FIGURE 3.10 Sense of belonging index, for different demographic groups

Figure 3.11 shows the percentages of students who agreed with the sense of belonging statements, for the different demographic groups.

- ▶ A higher percentage of male students agreed with the statements *I make friends easily at school* and *I feel like I belong at school* than female students, and a higher percentage of female students agreed with *I feel like an outsider (or left out of things) at school*, *I feel awkward and out of place in my school* and *I feel lonely at school* than male students.
- ▶ A higher percentage of the least disadvantaged students agreed with *I make friends easily at school*, *I feel like I belong at school* and *other students seem to like me* than the most disadvantaged students, and a higher percentage of the most disadvantaged students agreed with *I feel like an outsider (or left out of things)*, *I feel awkward and out of place in my school* and *I feel lonely at school* than the least disadvantaged students.
- ▶ A higher percentage of students in metropolitan schools agreed with *I feel like I belong at school* than for students in provincial or remote schools, and a higher percentage of students in metropolitan schools agreed with *other students seem to like me* than for students in provincial schools. A higher percentage of students in provincial schools agreed with *I feel like an outsider (or left out of things)*, *I feel awkward and out of place in my school*, and *I feel lonely at school* than students in metropolitan schools.

- ▶ A higher percentage of non-Indigenous students agreed with *I feel like I belong at school* and *other students seem to like me* than for Indigenous students, and a higher percentage of Indigenous students agreed with *I feel like an outsider (or left out of things) at school* than non-Indigenous students.
- ▶ A higher percentage of first-generation students agreed *I make friends easily at school* than Australian-born and foreign-born students. A higher percentage of foreign-born students agreed *I feel like I belong at school* than Australian-born students. A higher percentage of first-generation students agreed with *other students seem to like me* than foreign-born students. A higher percentage of Australian-born students agreed with *I feel like an outsider (or left out of things) at school* than first-generation students.

Demographic group	Percentage of students who reported <i>agree or strongly agree</i>		
	I make friends easily at school	I feel like I belong at school	Other students seem to like me
Sex			
Females	73	66	85
Males	78	70	86
Socioeconomic background			
Most disadvantaged students	71	61	80
Socioeconomically average students	76	69	86
Least disadvantaged students	79	75	90
Geographic location of schools			
Metropolitan	76	70	86
Provincial	74	65	83
Remote	68	57	77
Indigenous background			
Indigenous	75	64	81
Non-Indigenous	76	68	86
Immigrant background			
Australian-born	75	67	85
First-generation	77	69	86
Foreign-born	74	71	84

Demographic group	I feel like an outsider (or left out of things) at school	I feel awkward and out of place in my school	I feel lonely at school
Sex			
Females	30	27	22
Males	25	23	17
Socioeconomic background			
Most disadvantaged students	32	28	23
Socioeconomically average students	26	25	19
Least disadvantaged students	23	22	17
Geographic location of schools			
Metropolitan	26	24	19
Provincial	31	28	21
Remote	31	25	24
Indigenous background			
Indigenous	32	27	23
Non-Indigenous	27	25	19
Immigrant background			
Australian-born	28	25	19
First-generation	26	24	19
Foreign-born	26	24	20

FIGURE 3.11 Percentage of students who reported their agreement on aspects of sense of belonging at school, for different demographic groups

Figure 3.12 shows the percentages of students in PISA 2012 who agreed with the statements for the different demographic groups, along with the changes over a 6-year period.

Between PISA 2012 and 2018:

- ▶ There was a decrease in the percentage of students who agreed with the positively worded statements about sense of belonging at school across all demographic groups, except for students who attended schools in remote areas. This ranged from a 5 percentage point decrease for Indigenous students to a 12 percentage point decrease for the most disadvantaged students who agreed with *I feel like I belong at school*.
- ▶ There was an increase in the percentage of students who agreed with the negatively worded statements about sense of belonging at school across all demographic groups, except for students who attended schools in remote areas. The increase ranged from a 5 percentage point increase for Indigenous students who agreed with *I feel lonely at school* to a 14 percentage point increase for female students and students from provincial schools who agreed with *I feel like an outsider (or left out of things) at school*.

Demographic group	Percentage of students who reported <i>agree</i> or <i>strongly agree</i>					
	I make friends easily at school		I feel like I belong at school		Other students seem to like me	
	2012	Change over time	2012	Change over time	2012	Change over time
Sex						
Females	84	▼ 11 pp	77	▼ 11 pp	91	▼ 6 pp
Males	87	▼ 9 pp	80	▼ 10 pp	92	▼ 6 pp
Socioeconomic background						
Most disadvantaged students	82	▼ 11 pp	73	▼ 12 pp	88	▼ 8 pp
Socioeconomically average students	86	▼ 10 pp	78	▼ 9 pp	92	▼ 6 pp
Least disadvantaged students	89	▼ 10 pp	85	▼ 10 pp	95	▼ 5 pp
Geographic location of schools						
Metropolitan	87	▼ 11 pp	80	▼ 10 pp	92	▼ 6 pp
Provincial	83	▼ 9 pp	72	▼ 7 pp	89	▼ 6 pp
Remote	72	▽ 4 pp	64	▽ 7 pp	87	▽ 10 pp
Indigenous background						
Indigenous	84	▼ 9 pp	69	▼ 5 pp	89	▼ 8 pp
Non-Indigenous	86	▼ 10 pp	78	▼ 10 pp	92	▼ 6 pp
Immigrant background						
Australian-born	85	▼ 10 pp	77	▼ 10 pp	91	▼ 6 pp
First-generation	87	▼ 10 pp	80	▼ 11 pp	92	▼ 6 pp
Foreign-born	86	▼ 12 pp	81	▼ 10 pp	92	▼ 8 pp

Demographic group	I feel like an outsider (or left out of things) at school		I feel awkward and out of place in my school		I feel lonely at school	
	2012	Change over time	2012	Change over time	2012	Change over time
Sex						
Females	16	▲ 14 pp	16	▲ 11 pp	14	▲ 8 pp
Males	13	▲ 12 pp	14	▲ 9 pp	10	▲ 7 pp
Socioeconomic background						
Most disadvantaged students	19	▲ 13 pp	18	▲ 10 pp	13	▲ 10 pp
Socioeconomically average students	14	▲ 12 pp	14	▲ 11 pp	11	▲ 8 pp
Least disadvantaged students	12	▲ 11 pp	13	▲ 9 pp	11	▲ 6 pp
Geographic location of schools						
Metropolitan	14	▲ 12 pp	15	▲ 9 pp	11	▲ 8 pp
Provincial	17	▲ 14 pp	16	▲ 12 pp	12	▲ 9 pp
Remote	31	0 pp	25	0 pp	18	△ 6 pp
Indigenous background						
Indigenous	23	▲ 9 pp	23	▽ 4 pp	18	▲ 5 pp
Non-Indigenous	15	▲ 12 pp	15	▲ 10 pp	11	▲ 8 pp
Immigrant background						
Australian-born	15	▲ 13 pp	15	▲ 10 pp	12	▲ 7 pp
First-generation	14	▲ 12 pp	14	▲ 10 pp	11	▲ 8 pp
Foreign-born	13	▲ 13 pp	14	▲ 10 pp	11	▲ 9 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 3.12 Percentage of students who reported their agreement on aspects of sense of belonging at school in PISA 2012, and the difference between PISA 2012 and 2018, for different demographic groups

Sense of belonging at school and reading literacy performance

Figure 3.13 shows that middle and high performers in reading literacy reported similar levels of sense of belonging at school, and had a greater sense of belonging than the lowest performers.



FIGURE 3.13 Sense of belonging index, by reading literacy performance group for Australia

Figure 3.14 shows there was a higher percentage of high performers who agreed with the statements *I feel I belong at school* and *other students seem to like me* than for the middle performers, and in turn, a higher percentage of middle performers who agreed than for the low performers.

A higher percentage of low performers agreed with the statements:

- ▶ *I make friends easily at school* than the high performers.
- ▶ *I feel like an outsider (or left out of things)* and *I feel lonely at school* than the middle and high performers.
- ▶ *I feel awkward and out of place in my school* than the middle performers.

Reading literacy performance	Percentage of students who reported agree or strongly agree					
	I make friends easily at school	I feel like I belong at school	Other students seem to like me	I feel like an outsider (or left out of things) at school	I feel awkward and out of place in my school	I feel lonely at school
Low performers	77	63	81	32	28	23
Middle performers	75	70	87	25	23	18
High performers	71	78	90	22	26	17

FIGURE 3.14 Percentage of students who reported their agreement on aspects of sense of belonging at school, by reading literacy performance group

Figure 3.15 shows that sense of belonging between PISA 2012 and 2018 deteriorated across all levels of performance.

- ▶ There was a decrease in the percentage of students who agreed with the positively worded statements about sense of belonging at school. This ranged from a 4 percentage point decrease for the high performers who agreed with *other students seem to like me* to a 14 percentage point decrease for the high performers who agreed with *I make friends easily at school*.
- ▶ There was an increase in the percentage of students who agreed with the negatively worded statements about sense of belonging at school. This ranged from a 7 percentage point increase for middle and high performers who agreed with *I feel lonely at school*, and a 7 percentage point increase for low performers who agreed with *I feel awkward and out of place in my school* to a 12 percentage point increase for middle performers who agreed with *I feel like an outsider (and left out of things) at school*.

Reading literacy performance	Percentage of students who reported agree or strongly agree					
	I make friends easily at school		I feel like I belong at school		Other students seem to like me	
	2012	Change over time	2012	Change over time	2012	Change over time
Low performers	86	▼ 9 pp	71	▼ 8 pp	89	▼ 8 pp
Middle performers	85	▼ 10 pp	80	▼ 10 pp	92	▼ 5 pp
High performers	85	▼ 14 pp	86	▼ 8 pp	94	▼ 4 pp

Reading literacy performance	I feel like an outsider (or left out of things) at school		I feel awkward and out of place in my school		I feel lonely at school	
	2012	Change over time	2012	Change over time	2012	Change over time
	2012	Change over time	2012	Change over time	2012	Change over time
Low performers	21	▲ 11 pp	21	▲ 7 pp	15	▲ 8 pp
Middle performers	13	▲ 12 pp	14	▲ 9 pp	11	▲ 7 pp
High performers	11	▲ 11 pp	15	▲ 11 pp	10	▲ 7 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

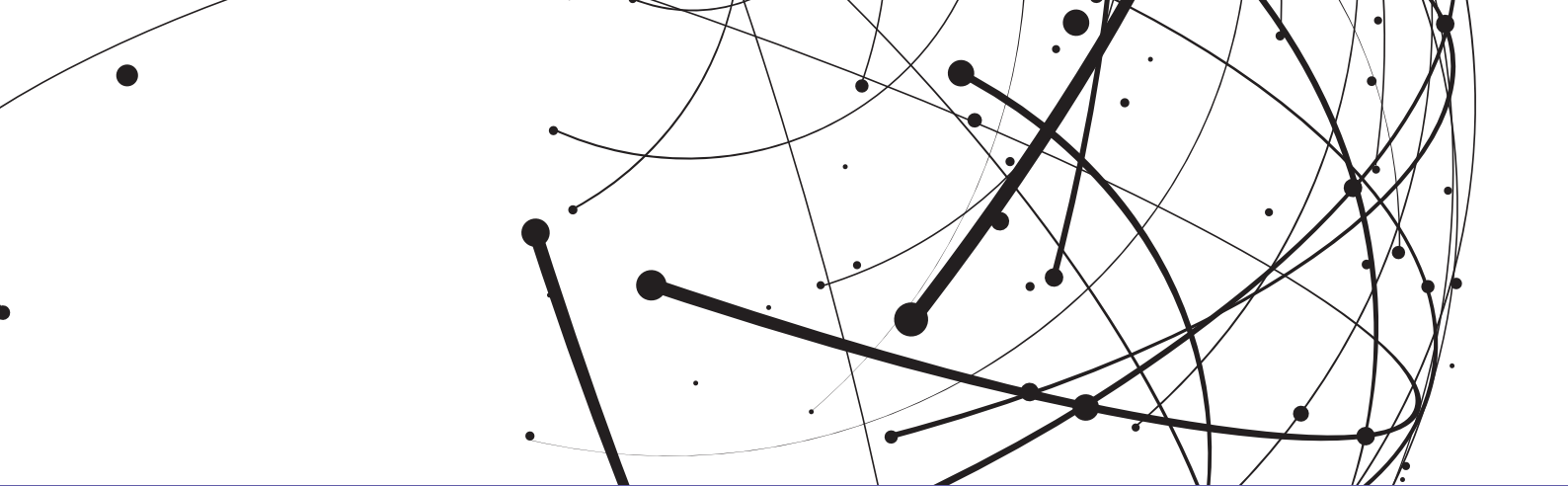
FIGURE 3.15 Percentage of students who reported their agreement on aspects of sense of belonging at school in PISA 2012, and the difference between PISA 2012 and 2018, by reading literacy performance group

The relationship between sense of belonging at school and reading literacy performance

Figure 3.16 shows the relationship between the quartiles of sense of belonging and reading literacy performance for Australia. There was little direct association between sense of belonging and reading literacy performance ($r = 0.05$). Students in the highest quartile scored 23 points on average higher in reading literacy performance than students in the lowest quartile. This score point difference is equal to around two-thirds of a year of schooling.



FIGURE 3.16 Relationship between sense of belonging at school and reading literacy performance, for Australia



Student cooperation

Studies have shown that students perform better academically, report more positive relationships with classmates and develop a stronger attachment to school in cooperative academic settings (Roseth et al., 2008).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in student cooperation and how they vary by student characteristics. It also explores the relationship between student cooperation and reading literacy performance.

Key findings

- On average, Australian students perceived that cooperation among students occurred to a similar extent in schools as students in New Zealand, Poland, Macao (China) and Germany and perceived cooperating to a greater extent than students on average across the OECD countries.
- On average, 64% of Australian students perceived it was true or extremely true that it seems that *students are cooperating with each other* and 67% that *students feel they are encouraged to cooperate with others*, while 59% agreed it was true or extremely true that *students seem to value cooperation* and 60% that *students seem to share the feeling that cooperating with each other is important*.
- Students in New South Wales perceived cooperation among students at school occurred to a similar extent as students in Victoria, South Australia and the Australian Capital Territory, and perceived cooperation occurred to a greater extent than among students from the other jurisdictions.
- Students in the Northern Territory, Tasmania and Western Australia perceived cooperation among students in school to be less prevalent than for students across the OECD on average.
- Students in independent schools perceived that cooperation among students occurred to a greater extent than those in Catholic and government schools.
- Male students perceived that cooperation among students occurred to a greater extent than did female students.

- ➔ The least disadvantaged students perceived that cooperation among students occurred to a greater extent than did the most disadvantaged students.
- ➔ Students in metropolitan schools perceived that cooperation among students occurred to a greater extent than students in provincial and remote schools, and students in provincial schools perceived that cooperation among students occurred to a greater extent than students in remote schools.
- ➔ Non-Indigenous students perceived cooperation occurred to a greater extent than did Indigenous students.
- ➔ Australian-born students, first-generation students and foreign-born students perceived cooperation among students occurred to a similar extent.
- ➔ Students in the highest quartile of the cooperation index scored on average 29 points higher (nearly one year of schooling) in reading literacy performance than students in the lowest quartile.

How is student cooperation measured in PISA?

Student cooperation was measured by asking students how true they perceived the following statements about their school were:

- ▶ *Students seem to value cooperation.*
- ▶ *It seems that students are cooperating with each other.*
- ▶ *Students seem to share the feeling that cooperating with each other is important.*
- ▶ *Students feel that they are encouraged to cooperate with others.*

Students were asked to respond to each of the statements on a four-point scale (*not at all true, slightly true, very true, extremely true*).

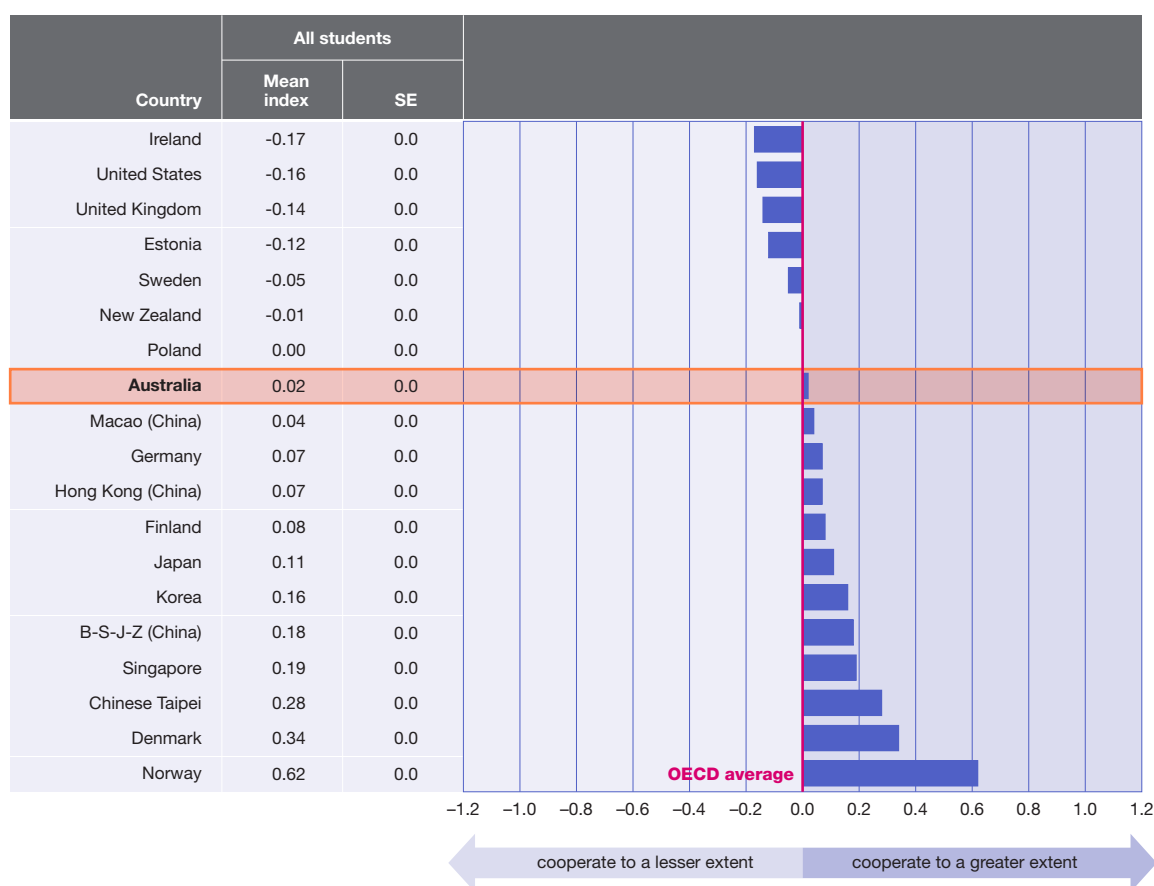
An index of student cooperation was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values on the index indicate that students perceive that other students at their school cooperate with each other to a greater extent than on average across the OECD. Negative values on the index indicate a perception that students cooperate to a lesser extent than on average across the OECD.

Student cooperation in an international context

Figure 4.1 presents the mean index scores for Australia, the comparison countries, and the OECD average on the student cooperation index.

Students in all except five countries (Ireland, the United States, the United Kingdom, Estonia and Sweden) perceived that students at their school largely cooperate with other students.

Students in Norway reported the greatest prevalence of perceived student cooperation, achieving the highest mean index of all countries, while Ireland and the United States reported the lowest mean index score, reflecting students perceived that cooperation among students occurred to a lesser extent at their school. The mean index score of 0.02 for Australia was higher than that of students on average across the OECD countries (0.00).



Note: Data not available for Canada. Countries with the lowest mean score on the student cooperation index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 4.1 Cooperation index, for Australia and comparison countries

Figure 4.2 shows the percentages of students who reported how true they perceived each statement about student cooperation was at their school.

- ▶ Fifty-nine per cent of Australian students reported it was true²⁶ at their school that *other students seem to value cooperation*. This percentage was similar for students in B-S-J-Z (China), Japan, Macao (China) and Poland. The percentages of students reporting this statement was true was higher for students in eight of the comparison countries, including Norway, Denmark, Chinese Taipei and Singapore, and lower for students in Estonia, the United Kingdom, Ireland, the United States, New Zealand and Sweden, and students on average across the OECD countries.
- ▶ Sixty-four per cent of Australian student reported it was true at their school that *it seems that students are cooperating with each other*. This proportion was similar for students in New Zealand, Sweden, Japan, Macao (China), Hong Kong (China), Poland and Germany. The percentages were higher for students in seven of the comparison countries, including Norway, Denmark, Chinese Taipei and Finland, and lower for students in the United States, Ireland, Estonia, the United Kingdom and students on average across the OECD countries.
- ▶ Sixty per cent of Australian students reported that it was true at their school that *students seem to share the feeling that cooperating with each other is important*. This percentage was similar for students on average across the OECD countries. The percentages were higher for students in 12 comparison countries, including Norway, Denmark, Chinese Taipei and Korea, and lower for students in Ireland, the United Kingdom, the United States, Sweden, Estonia and New Zealand.

26 For ease of reading, from this point onward 'very true' and 'extremely true' will be referred to as 'true'.

- ▶ Sixty-seven per cent of Australian students reported that it was true at their school that *students feel that they are encouraged to cooperate with others*. This percentage was similar for students in Finland, B-S-J-Z (China), and Hong Kong (China). The percentages were higher for students in Norway, Denmark, Singapore, Chinese Taipei, Macao (China), and Korea, and lower for students in the remaining nine comparison countries.

Country	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value cooperation	It seems that students are cooperating with each other	Students seem to share the feeling that cooperating with each other is important	Students feel that they are encouraged to cooperate with others
Ireland	50	57	52	58
United States	51	55	52	58
United Kingdom	50	59	52	57
Estonia	47	59	55	53
Sweden	56	63	55	58
New Zealand	56	62	58	64
Poland	61	65	63	62
Australia	59	64	60	67
Macao (China)	57	64	62	70
Germany	62	66	64	60
Hong Kong (China)	61	65	66	65
Finland	64	70	64	68
Japan	58	64	63	60
Korea	65	68	69	69
B-S-J-Z (China)	58	66	68	67
Singapore	65	68	68	72
Chinese Taipei	67	71	70	71
Denmark	76	81	71	74
Norway	86	87	85	79
OECD average	57	62	60	60

Note: Data not available for Canada. Countries are listed from the lowest to highest mean score on the student cooperation index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 4.2 Percentage of students who perceive other students at their school cooperate with each other, for Australia and comparison countries

Student cooperation in a national context

Figure 4.3 shows the mean index scores for students in each of the Australian jurisdictions, and the OECD average, on the student cooperation index.

- ▶ The mean index scores on the student cooperation index ranged from -0.22 in the Northern Territory to 0.09 in New South Wales.
- ▶ Students in New South Wales perceived students cooperated to a similar extent at school to students in Victoria, South Australia and the Australian Capital Territory, and held a greater perception of cooperation among students than students from the other jurisdictions.
- ▶ Students in the Northern Territory, Tasmania and Western Australia perceived cooperation among students in school to be less prevalent than for students across the OECD on average.
- ▶ Students in the Northern Territory perceived cooperation occurring among students to a similar extent to students in Tasmania and Western Australia.

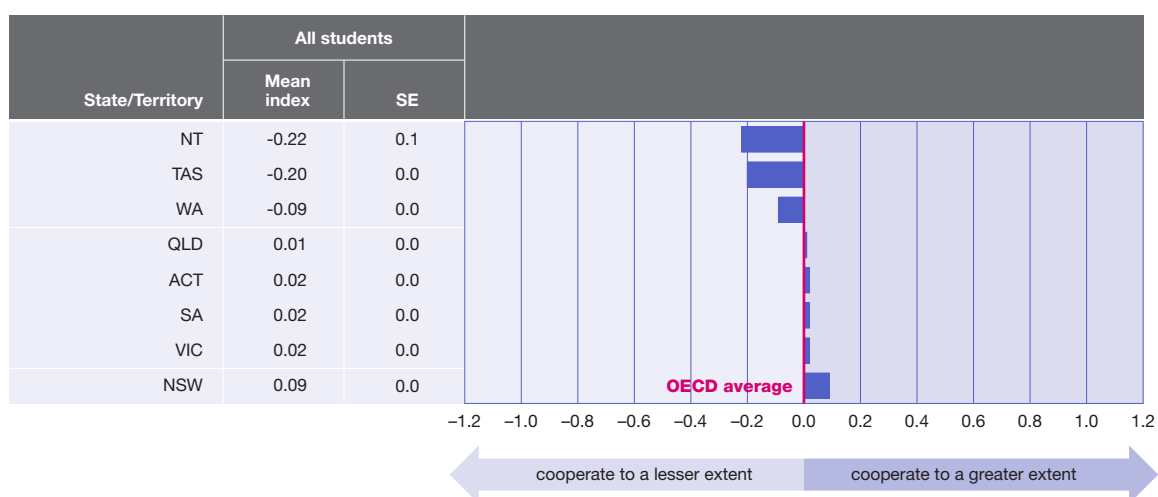


FIGURE 4.3 Cooperation index, by state and territory

Figure 4.4 presents the percentages of students who reported their agreement to each of the cooperation statements occurring in their school, by jurisdiction.

- ▶ Students across the jurisdictions showed variations in their perception of cooperation among students. Forty-eight per cent of students from the Northern Territory through to 61% of students from New South Wales reported it was true that *students seem to value cooperation*.
- ▶ Fifty-four per cent of students from Tasmania through to 65% of students in New South Wales, Victoria and South Australia reported it was true that *it seems that students are cooperating with each other*.
- ▶ Fifty per cent of students from the Northern Territory and Tasmania through to 63% of students in New South Wales reported it was true that *students seem to share the feeling that cooperating with each other is important*.
- ▶ Fifty-nine per cent of students in the Northern Territory through to 69% of students in the Australian Capital Territory and New South Wales reported it was true that *students feel that they are encouraged to cooperate with others*.

State/Territory	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value cooperation	It seems that students are cooperating with each other	Students seem to share the feeling that cooperating with each other is important	Students feel that they are encouraged to cooperate with others
NT	48	55	50	59
TAS	51	54	50	62
WA	56	60	56	61
QLD	57	64	60	66
ACT	60	63	61	69
SA	60	65	59	68
VIC	58	65	61	67
NSW	61	65	63	69

Note: Jurisdictions are listed from the lowest to highest mean score on the student cooperation index.

FIGURE 4.4 Percentage of students who perceive other students at their school cooperate with each other, by state and territory

Figure 4.5 shows the mean index score on the student cooperation index for each school sector. Students in government schools reported students cooperated to a lesser extent than students in Catholic and independent schools, while students in Catholic schools reported to a lesser extent cooperation occurring than students in independent schools.

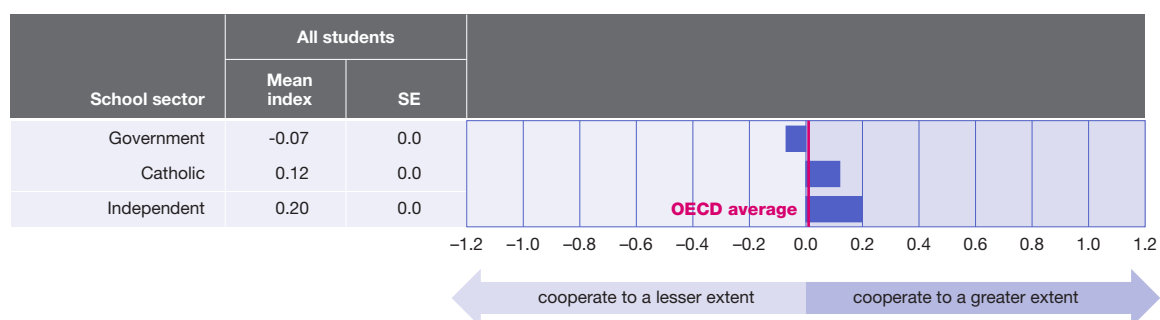


FIGURE 4.5 Cooperation index, by school sector

Figure 4.6 shows that this pattern is largely reflected in responses to the items that make up the index of cooperation. While there were similar percentages of responses between students in Catholic and independent schools, students in both sectors reported cooperation occurred to a greater extent than students in government schools.

- ▶ The items on which there were the lowest agreement were those about whether students value cooperation: *students seem to value cooperation* and *students seem to share the feeling that cooperating with each other is important*. A little more than half of the students in government schools, and around two-thirds of those in Catholic and independent schools, reported this as true.
- ▶ Nevertheless, it would seem that students are largely encouraged to cooperate and that they do so. Around 70% of students from Catholic and independent schools reported it was true that *it seems that students are cooperating with each other*, in contrast to nearly 60% of students from government schools, while over 70% of students from Catholic and independent schools reported it was true that *students feel that they are encouraged to cooperate with others* in contrast to 62% of students from government schools.

School sector	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value cooperation	It seems that students are cooperating with each other	Students seem to share the feeling that cooperating with each other is important	Students feel that they are encouraged to cooperate with others
Government	54	59	56	62
Catholic	64	69	66	71
Independent	67	71	67	75

FIGURE 4.6 Percentage of students who perceive other students at their school cooperate with each other, by school sector

Cooperation for different demographic groups in a national context

Figure 4.7 shows the mean index scores on the student cooperation index for students from different demographic groups.

- ▶ The perception that other students at their school cooperate with each other was higher among male students than female students.
- ▶ The least disadvantaged students perceived that cooperation among students occurred to a greater extent than did the most disadvantaged students.
- ▶ Students in metropolitan schools perceived that cooperation among students occurred to a greater extent than did students in provincial and remote schools, and students in provincial schools perceived that cooperation among students occurred to a greater extent than students in remote schools.
- ▶ Non-Indigenous students perceived cooperation occurred to a greater extent amongst students than did Indigenous students.
- ▶ Australian-born students, first-generation students and foreign-born students perceived cooperation among students at school occurred to a similar extent.

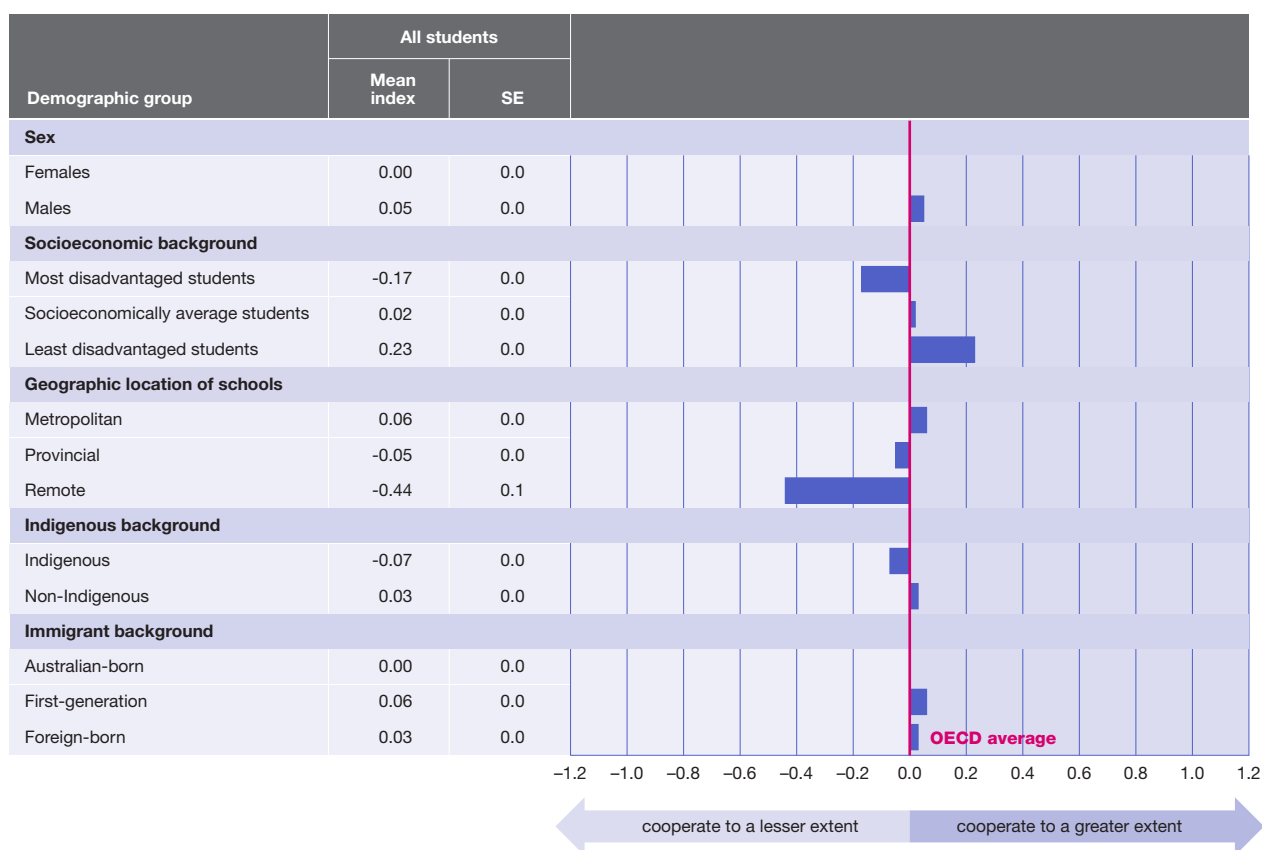


FIGURE 4.7 Cooperation index, for different demographic groups

Figure 4.8 presents student responses for each of the demographic groups on the individual items comprising the index.

Largely these percentages follow similar patterns to those seen for the overall index. Of note are the lower percentages of agreement with all of the statements amongst those students attending remote schools. Just 40% agree that *students seem to value cooperation* and 41% that *students seem to share the feeling that cooperating with each other is important*. In contrast, the highest percentage of agreement on each of the items was from least disadvantaged students, of whom 72% agreed that *it seems that students are cooperating with each other* and 75% agreed that *students feel that they are encouraged to cooperate with others*.

Demographic group	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value cooperation	It seems that students are cooperating with each other	Students seem to share the feeling that cooperating with each other is important	Students feel that they are encouraged to cooperate with others
Sex				
Females	57	62	59	67
Males	60	65	62	67
Socioeconomic background				
Most disadvantaged students	50	55	52	58
Socioeconomically average students	59	64	60	67
Least disadvantaged students	67	72	69	75
Geographic location of schools				
Metropolitan	60	65	62	68
Provincial	55	61	58	64
Remote	40	47	41	48
Indigenous background				
Indigenous	53	56	56	59
Non-Indigenous	59	64	61	67
Immigrant background				
Australian-born	58	63	59	66
First-generation	60	65	62	67
Foreign-born	58	62	61	67

FIGURE 4.8 Percentage of students who perceive other students at their school cooperate with each other, for different demographic groups

Student cooperation and reading literacy performance

Figure 4.9 shows that the high performers perceived cooperation occurred to a greater extent than the middle performers, who in turn reported student cooperation occurred to a greater extent than the low performers.

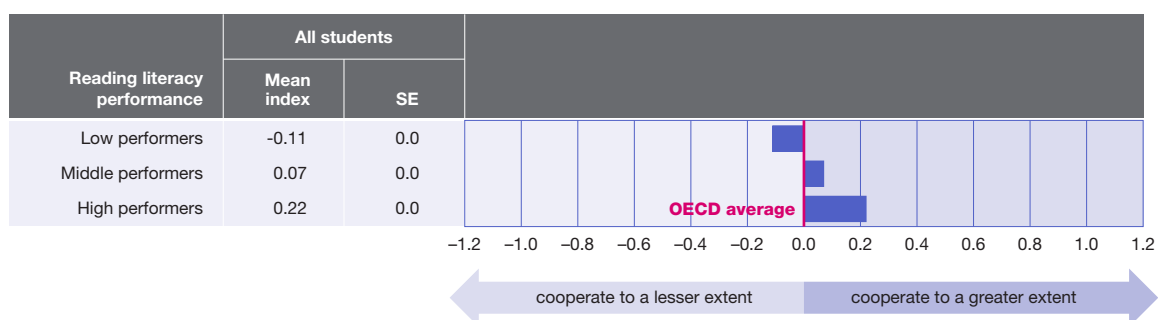


FIGURE 4.9 Cooperation index, by reading literacy performance group for Australia

Figure 4.10 shows that on each of the items used to construct the cooperation measure, low performers reported each item true to a lesser extent than higher performers. For example, 57% of low performers perceived it was true that *it seems that students are cooperating with each other* in their school compared with 73% of high performers, and 59% of low performers reported it was true that *students feel they are encouraged to cooperate with others* in their school compared with 77% of high performers.

Reading literacy performance	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value cooperation	It seems that students are cooperating with each other	Students seem to share the feeling that cooperating with each other is important	Students feel that they are encouraged to cooperate with others
Low performers	51	57	55	59
Middle performers	61	66	62	69
High performers	69	73	69	77

FIGURE 4.10 Percentage of students who perceive other students at their school cooperate with each other, by reading literacy performance group

Figure 4.11 shows the relationship between student cooperation (by quartiles) and reading literacy performance. For Australian students there was a very small positive relationship between student cooperation and reading literacy performance ($r = 0.10$).

On the student cooperation index, students in the highest quartile scored 29 points on average higher on the reading literacy assessment than students in the lowest quartile. This score point difference was equal to nearly one year of schooling.

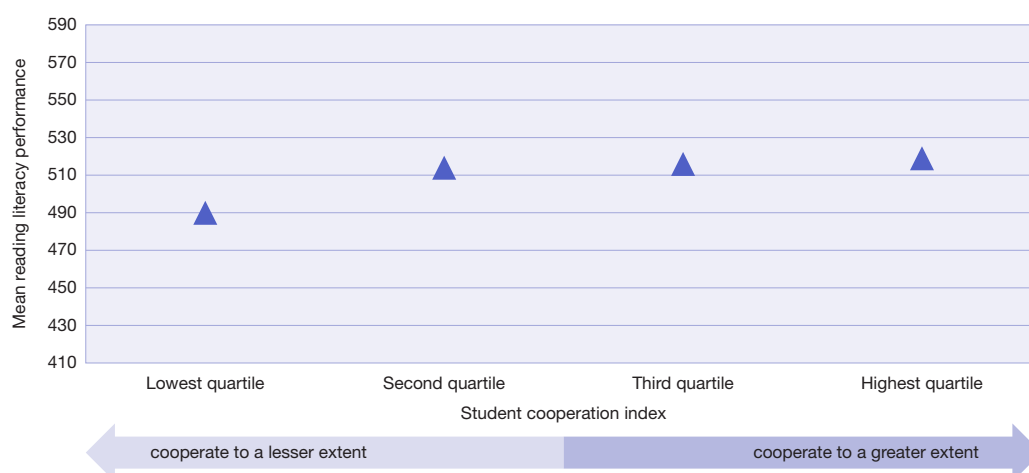


FIGURE 4.11 Relationship between student cooperation and reading literacy performance, for Australia



Student competition

CHAPTER

5

Roseth et al., (2008) have reported that students perform better academically, report more positive relationships with their peers and a stronger attachment to school in cooperative school settings than in competitive school settings. However, Kistruck et al., (2016) cite a competitive environment can lead to greater motivation to achieve.

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in student competition and how they vary by student characteristics. It also explores the relationship between student competition and reading literacy performance.

Key findings

- On average, Australian students perceived competition among students at school occurred to a similar extent as students in New Zealand, Chinese Taipei and the United States, and to a greater extent than students on average across the OECD countries.
- On average, 68% of Australian students perceived it was true or extremely true that *students feel that they are being compared with others*, 67% reported agreement that *students seem to value competition*, 64% reported that *it seems that students are competing with each other* and 56% reported that *students seem to share the feeling that competing with each other is important*.
- Students in New South Wales perceived competition among students at school occurred to a similar extent as students in the Australian Capital Territory, and perceived competition occurred to a greater extent than students in the other jurisdictions.
- Students in independent schools perceived that competition among students at school occurred to a greater extent than students in Catholic schools, who in turn perceived competition among students occurring to a greater extent than students in government schools.
- Male students perceived that competition among students occurred to a greater extent than female students.

- The least disadvantaged students perceived competition among students occurred to a greater extent in schools than the most disadvantaged students.
- Students in metropolitan schools perceived competition among students occurred to a greater extent than students in provincial and remote schools. In turn, students in provincial schools perceived competition among students occurred to a greater extent than students in remote schools.
- Students in the highest quartile of the competition index scored on average 32 points higher (nearly one year of schooling) in reading literacy performance than students in the lowest quartile.

How is student competition measured in PISA?

Student competition was measured by asking students how true they perceived the following statements about their school to be:

- ▶ *Students seem to value competition.*
- ▶ *It seems that students are competing with each other.*
- ▶ *Students seem to share the feeling that competing with each other is important.*
- ▶ *Students feel that they are being compared with others.*

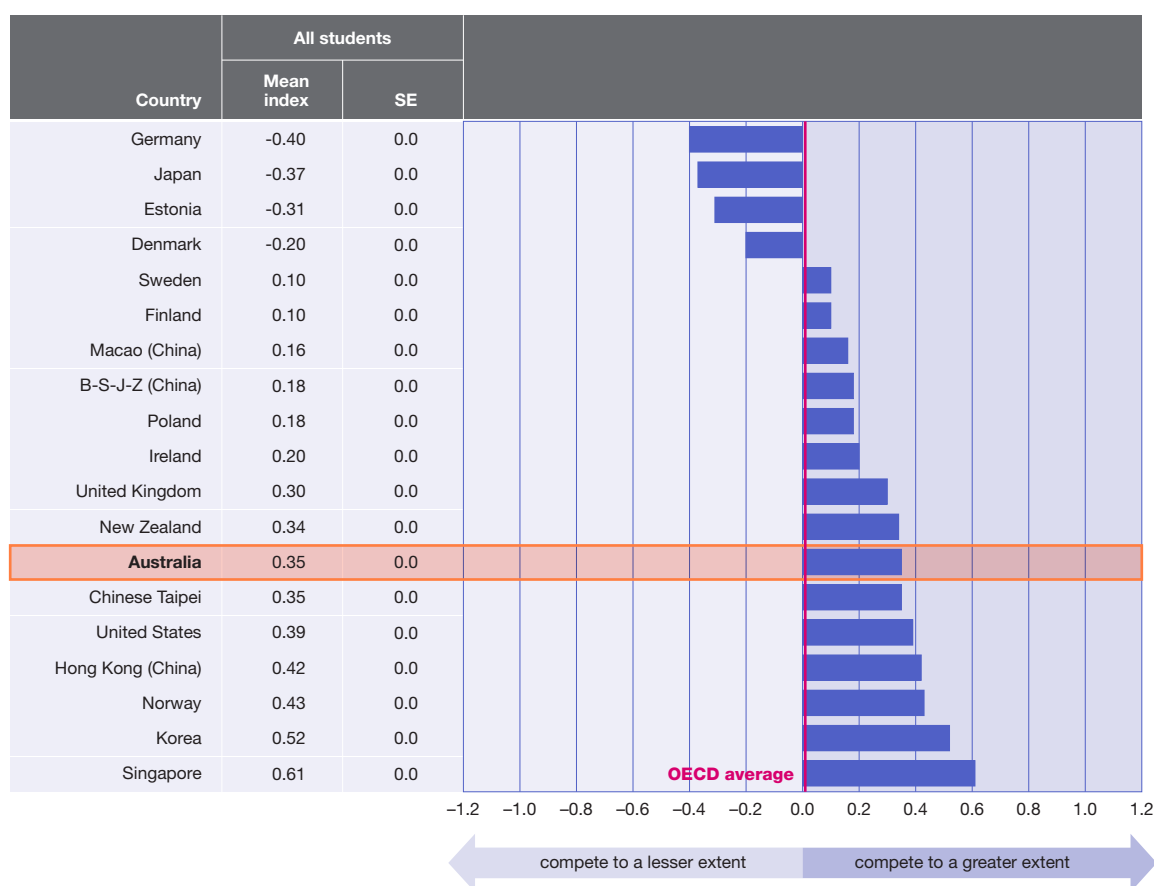
Students were asked to respond to each of the statements on a four-point scale (*not at all true, slightly true, very true, extremely true*).

An index of student competition was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values on the index indicate that students perceive that other students at their school compete with each other to a greater extent than on average across the OECD. Negative values on the index indicate a perception that students compete with each other to a lesser extent than on average across the OECD.

Student competition in an international context

Figure 5.1 presents the mean index scores for Australia, the comparison countries, and the OECD average on the student competition index. Students in all except four countries (Germany, Japan, Estonia and Denmark) perceived that students at school compete with other students.

Students in Singapore reported the greatest prevalence of students at their school competing with each other, achieving the highest mean index of all countries, while Germany, Japan, Estonia and Denmark reported competition among other students occurring the least with the lowest mean index score. The mean index score of 0.35 for Australia was higher than that of students on average across the OECD countries (-0.01).



Note: Data not available for Canada. Countries with the lowest mean score on the student competition index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 5.1 Competition index, for Australia and comparison countries

Figure 5.2 shows the extent to which students reported their perception about statements about student competition at their school.

- ▶ Sixty-seven per cent of Australian students perceived it was true²⁷ at their school that *students seem to value competition*. This percentage was similar for students in Korea, New Zealand and the United States. A higher proportion of students in Norway and Singapore reported this, while there was a lower proportion from 13 comparison countries, including Japan, Germany, Estonia and B-S-J-Z (China) and students on average across the OECD countries.
- ▶ Sixty-four per cent of Australian students perceived it was true at their school that *it seems that students are competing with each other*. This percentage was similar for students in B-S-J-Z (China), New Zealand and the United States. The percentages were higher for students from Singapore, Korea, Norway, Hong Kong (China), the United Kingdom and Chinese Taipei, and lower for students from nine comparison countries, including Germany, Estonia, Japan and Denmark.
- ▶ Fifty-six per cent of Australian students perceived it was true at their school that *students seem to share the feeling that competing with each other is important*. This percentage was similar to the percentage of students in Chinese Taipei, New Zealand, Norway, Poland, the United Kingdom and the United States. The percentages were higher for students in Hong Kong (China), Korea and Singapore, and lower for students from nine comparison countries, including Denmark, Estonia, Germany and Japan.
- ▶ Sixty-eight per cent of Australian students perceived it was true that *students feel that they are being compared with others*, which was similar to the percentage of students in New Zealand,

27 For ease of reading, from this point onward 'very true' and 'extremely true' will be referred to as 'true'.

Poland, the United Kingdom and the United States. Singapore was the only country where the percentage of students was higher, while the percentage was lower for students in 14 comparison countries, including Japan, Denmark, Estonia and B-S-J-Z (China).

Country	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value competition	It seems that students are competing with each other	Students seem to share the feeling that competing with each other is important	Students feel that they are being compared with others
Germany	33	33	32	53
Japan	24	34	32	36
Estonia	34	33	30	48
Denmark	49	43	30	47
Sweden	60	52	43	60
Finland	54	59	48	52
Macao (China)	52	59	47	57
B-S-J-Z (China)	39	63	53	51
Poland	55	62	57	68
Ireland	61	57	50	65
United Kingdom	58	66	54	68
New Zealand	67	64	55	68
Australia	67	64	56	68
Chinese Taipei	59	66	57	60
United States	67	64	57	68
Hong Kong (China)	63	67	63	66
Norway	81	69	57	66
Korea	66	73	65	64
Singapore	69	76	65	79
OECD average	48	50	44	55

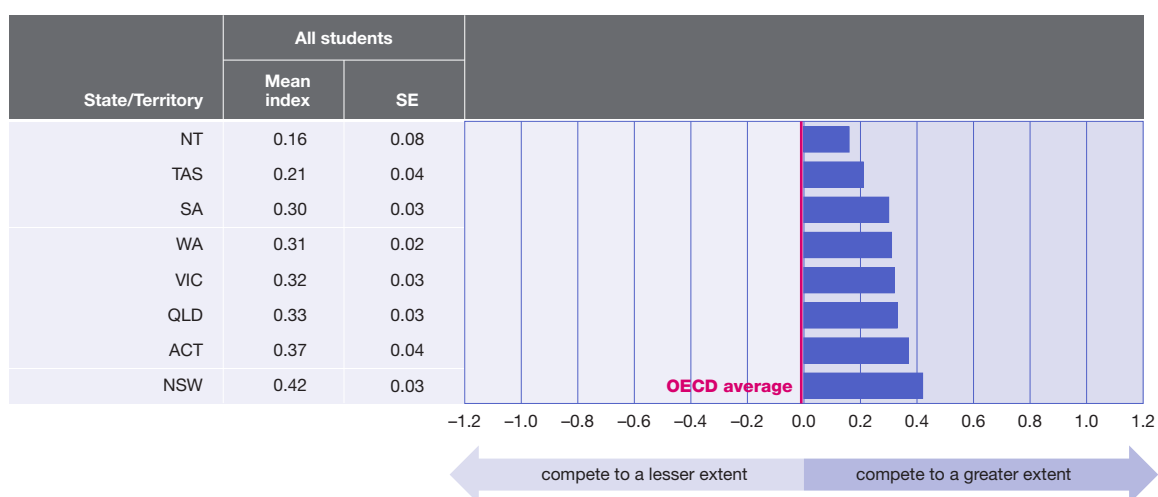
Note: Data not available for Canada. Countries are listed from the lowest to highest mean score on the student competition index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 5.2 Percentage of students who perceive other students at their school compete with each other, for Australia and comparison countries

Student competition in a national context

Figure 5.3 shows the mean index scores for students in each of the Australian states and territories, and the OECD average, on the student competition index. Students in all jurisdictions perceived student competition at their school was more prevalent than students across the OECD countries. The mean index scores on the student cooperation index ranged from 0.16 in the Northern Territory to 0.42 in New South Wales.

- Students in New South Wales perceived that competition among students at school occurred to a similar extent as students in the Australian Capital Territory, and perceived competition occurred to a greater extent than students in the other jurisdictions.



Note: Jurisdictions with the lowest mean score on the student competition index are placed at the top of the figure and jurisdictions with the highest mean score on the index are placed at the bottom.

FIGURE 5.3 Competition index, by state and territory

Figure 5.4 presents the extent of agreement with each of the statements that comprises the index score, by jurisdiction.

The statement that garnered the lowest percentages of agreement was that *students seem to share the feeling that competing with each other is important*. Just 48% of students from the Northern Territory through to 58% of students from the Australian Capital Territory and New South Wales perceived this was true.

State/Territory	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value competition	It seems that students are competing with each other	Students seem to share the feeling that competing with each other is important	Students feel that they are being compared with others
NT	60	60	48	70
TAS	61	59	53	65
SA	67	61	55	66
WA	64	64	55	70
VIC	66	63	54	69
QLD	67	63	56	67
ACT	68	65	58	70
NSW	69	67	58	69

Note: Jurisdictions are listed from the lowest to highest mean score on the student competition index.

FIGURE 5.4 Percentage of students who perceive other students at their school compete with each other, by state and territory

Figure 5.5 shows the mean index score on the student competition index for each school sector. Students in all school sectors perceived competition occurred to a greater extent than on average across the OECD. Differences between the groups are all significant.

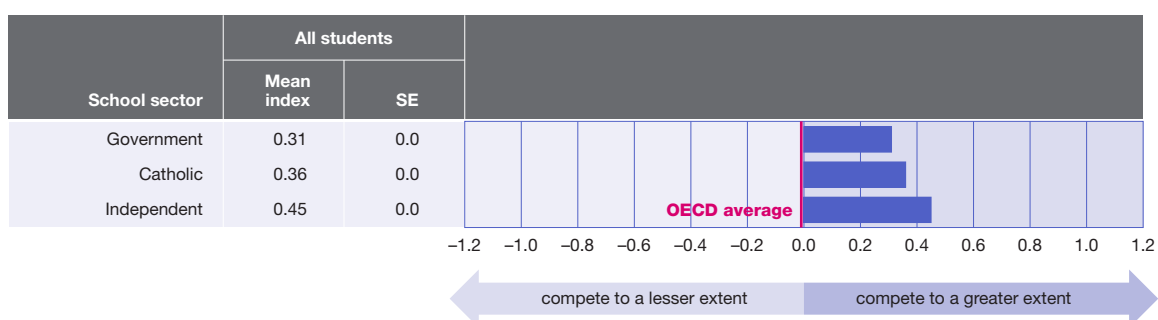


FIGURE 5.5 Competition index, by school sector

Figure 5.6 shows that students in independent schools perceived each of the aspects of competition occurred in their school to a greater extent than did students in government schools and Catholic schools, while students from Catholic schools perceived each of the aspects of competition occurred to a greater extent than for students from government schools.

The perception that *students feel that they are being compared to others* was similar in all three sectors, with about 70% of students agreeing.

School sector	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value competition	It seems that students are competing with each other	Students seem to share the feeling that competing with each other is important	Students feel that they are being compared with others
Government	64	63	55	68
Catholic	69	64	55	68
Independent	73	68	60	70

FIGURE 5.6 Percentage of students who perceive other students at their school compete with each other, by school sector

Competition for different demographic groups in a national context

Figure 5.7 shows the mean index scores on the competition index for students from different demographic groups.

- ▶ Male students perceived that competition among students occurred to a greater extent than female students.
- ▶ The least disadvantaged students perceived that students at their school compete with each other to a greater extent than do the most disadvantaged students.
- ▶ Students in metropolitan schools perceived competition among students occurred to a greater extent than students in provincial and remote schools. In turn, students in provincial schools perceived competition among students occurred to a greater extent than students in remote schools.
- ▶ Indigenous and non-Indigenous students did not differ in the extent to which they perceived competition among students occurred at school.
- ▶ Students across the immigrant backgrounds groups perceived that competition among students occurred to a similar extent.

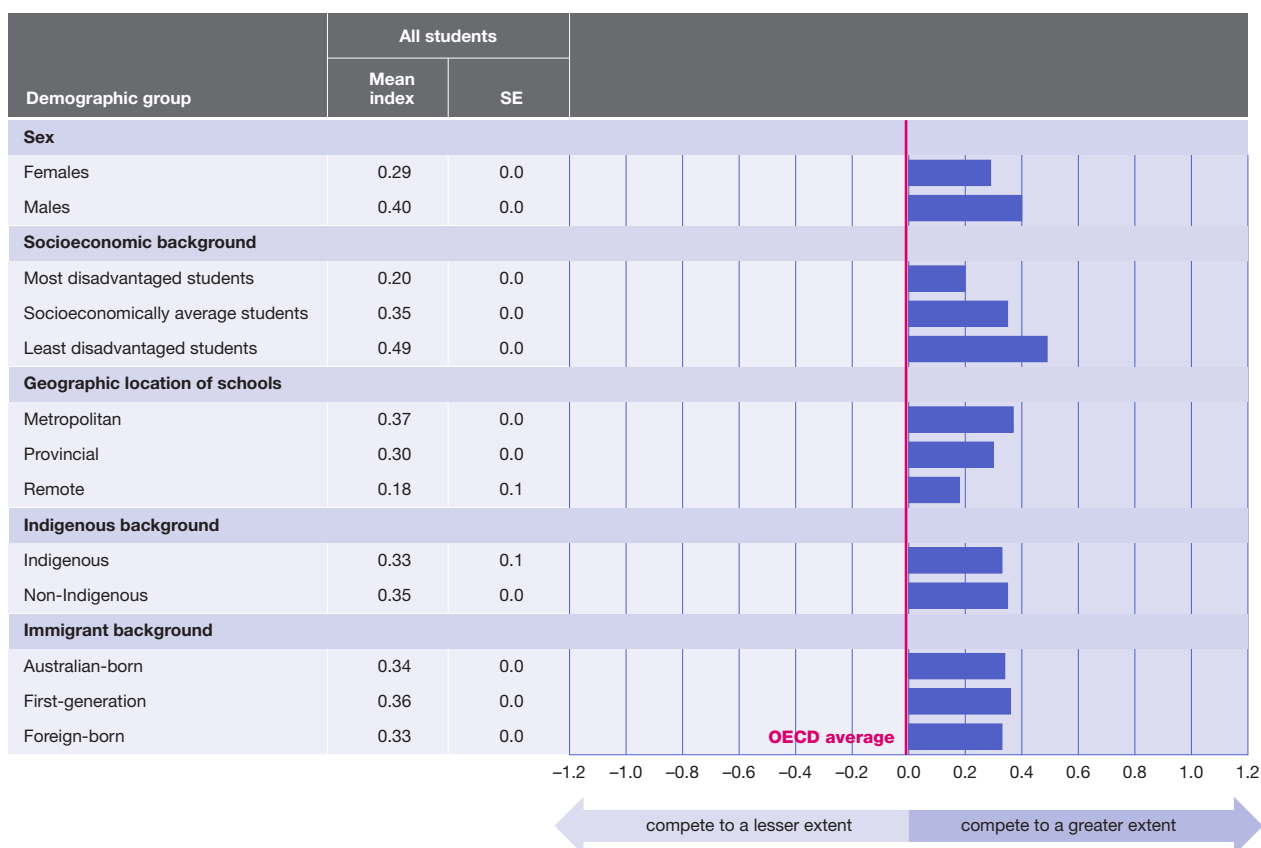


FIGURE 5.7 Competition index, for different demographic groups

Figure 5.8 shows the proportion of students agreeing with each of the statements comprising the competition index, by demographic group. These generally reflect the index scores.

Interestingly, *students seem to share the feeling that competing with each other is important* received lower percentages of agreement than the other index items in general, with just over half of the most disadvantaged students and 61% of the least disadvantaged students agreeing that this happened in their schools. Almost in contradiction, 59% of the most disadvantaged and 74% of the least disadvantaged students agreed that in their school *students seem to value competition*.

Demographic group	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value competition	It seems that students are competing with each other	Students seem to share the feeling that competing with each other is important	Students feel that they are being compared with others
Sex				
Females	65	62	52	70
Males	69	66	59	67
Socioeconomic background				
Most disadvantaged students	59	59	51	64
Socioeconomically average students	67	65	56	69
Least disadvantaged students	74	68	61	72
Geographic location of schools				
Metropolitan	67	65	56	69
Provincial	66	63	55	66
Remote	53	57	53	63
Indigenous background				
Indigenous	65	66	59	69
Non-Indigenous	67	64	55	68
Immigrant background				
Australian-born	68	64	56	67
First-generation	66	65	56	70
Foreign-born	65	63	53	68

FIGURE 5.8 Percentage of students who perceive other students at their school compete with each other, for different demographic groups

Student competition and reading literacy performance

Figure 5.9 shows that the high performers perceive that other students at their school compete with each other to a greater extent than the low performers, and that middle performers perceived competition among students occurred more so than the low performers.

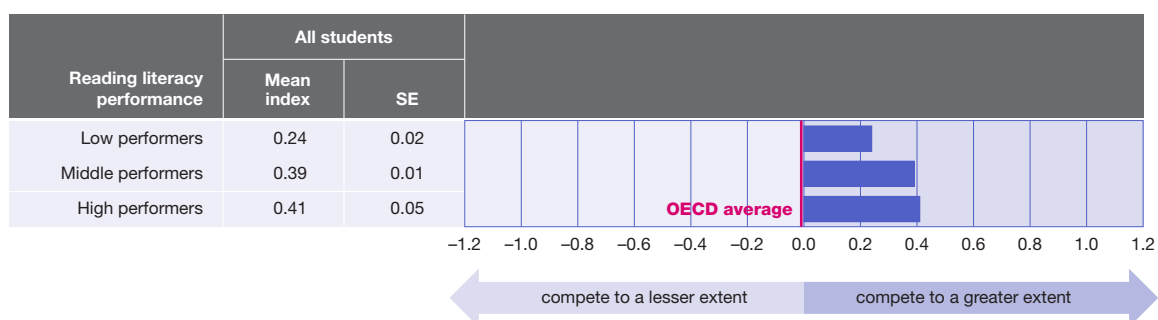


FIGURE 5.9 Competition index, by reading literacy performance group for Australia

Figure 5.10 shows that a higher percentage of middle performers perceived it was true that *it seems that students are competing with each other* than low performers. There were also a higher percentage of high performers who perceived it was true that *students seem to value competition*, *students feel that they are being compared with others* and *student seem to value competition* than middle performers, who in turn showed a higher percentage on these statements than the low performers.

Reading literacy performance	Percentage of students who reported <i>very true</i> or <i>extremely true</i>			
	Students seem to value competition	It seems that students are competing with each other	Students seem to share the feeling that competing with each other is important	Students feel that they are being compared with others
Low performers	58	59	56	62
Middle performers	70	66	56	71
High performers	73	64	52	74

FIGURE 5.10 Percentage of students who perceive other students at their school compete with each other, by reading literacy performance group

Figure 5.11 shows the relationship between student competition (by quartiles) and reading literacy performance. For Australian students there was a very small positive relationship between student competition and reading literacy performance ($r = 0.07$). Students who reported competition occurred at their school to a great extent performed higher in reading literacy than students who reported competition occurred to a lesser extent.

On the student competition index, students in the highest quartile scored 32 points on average higher than students in the lowest quartile. This score point difference was equal to nearly one-year of schooling.

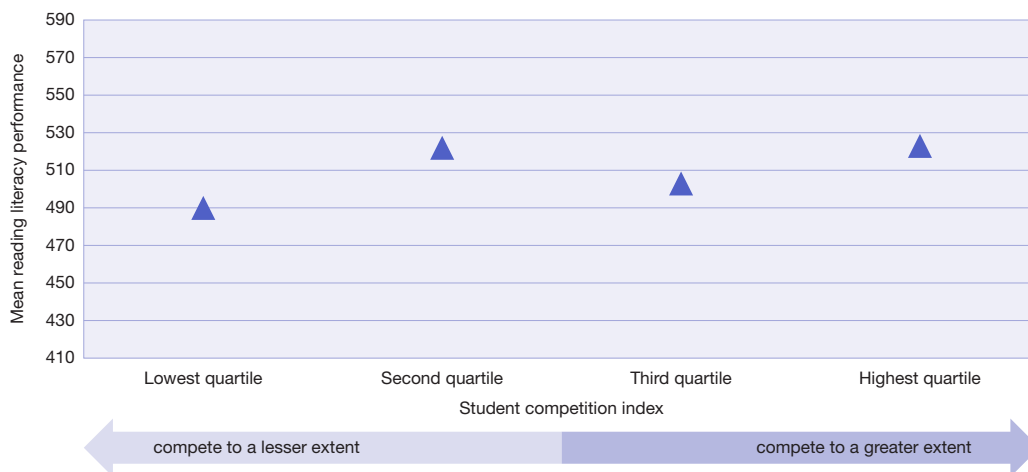


FIGURE 5.11 Relationship between student competition and reading literacy performance, for Australia

Student cooperation versus student competition

For Australian students, it would seem that competition is valued more than cooperation:

- ▶ Sixty-seven per cent of students perceived it was true that *students seem to value competition* in contrast to 59% for *students seem to value cooperation*.

Whereas there were no differences on other items between the indices.

- ▶ Sixty per cent of students perceived it was true that *students seem to share the feeling that cooperating with each other is important* in contrast to 56% for *students seem to share the feeling that competing with each other is important*.
- ▶ Sixty-eight per cent of students perceived it was true that *students feel that they are being compared with others* in contrast to 67% for *students feel they are encouraged to cooperate with others*.

As reported in Chapter 4, on the student cooperation index, students in the highest quartile scored 29 points on average higher than students in the lowest quartile. This score point difference was equal to nearly one year of schooling. In comparison, as indicated above, on the student index of competition, students in the highest quartile scored 32 points on average higher than students in the lowest quartile (also equal to nearly one-year of schooling).



Parental involvement in school activities

CHAPTER

6

Principals and teachers often rely on parents to help them create a positive learning environment in their school. School-related parental involvement is essential for creating a positive school climate: communicating with teachers, volunteering in activities and participating in school government (Cohen et al., 2009). Those authors also report parental involvement in school allows parents an opportunity to obtain first-hand information on the learning environment, and demonstrate to their child that education is important.

This chapter examines parents' involvement in school-based activities and focuses on the similarities and differences between countries, the Australian jurisdictions and different demographic groups and how they vary by student characteristics. It also explores the relationship between parental involvement in school-related activities and reading literacy performance.

Key findings

- ➔ On average, principals in Australian schools reported 54% of parents *discussed their child's progress on the initiative of one of their child's teachers*, 42% of parents *discussed their child's progress with a teacher on their own initiative*, 10% of parents' *volunteered in physical or extra-curricular activities* and 7% of parents' *participated in local school government*.
- ➔ Reports by principals of parental involvement in school activities increased between PISA 2012 and 2018. For instance, there was a 16 percentage point increase in Australian parents who *discussed their child's progress with a teacher on their own initiative* and a 14 percentage point increase in parents who *discussed their child's progress on the initiative of one of their child's teachers*.
- ➔ Nearly 50% of principals reported parents in schools in South Australia *discussed their child's progress with a teacher on their own initiative*, while almost 20% of parents in Tasmanian schools *volunteered in physical or extra-curricular activities*.
- ➔ A lower percentage of principals in government schools (51%) reported parents *discussed their child's progress on the initiative of one of their child's teachers* than principals in Catholic (60%) and independent schools (57%).

- ➔ A lower percentage of principals reported the parents of the most disadvantaged students (38%) *discussed their child's progress with a teacher on their own initiative* than parents of the least disadvantaged students (45%).
- ➔ A lower percentage of principals reported parents of Indigenous students *discussed their child's progress with a teacher on their own initiative* (35%) compared to parents of non-Indigenous students (42%).
- ➔ On average, about two-fifths of principals in Australian schools reported parents, irrespective of their child's immigrant background, *discussed their child's progress with a teacher on their own initiative*.
- ➔ Students whose principals reported parents *discussed their child's progress with a teacher on their own initiative* scored 26 points (equal to around three-quarters of a year of schooling) higher in reading literacy performance than students whose principals reported this activity occurred less frequently among parents, while principals reported the students whose parents *volunteered in physical or extra-curricular activities* scored 26 points (also equal to three-quarters of a year of schooling) higher in reading literacy performance than students whose principals reported this activity occurred less frequently among parents.

How is parental involvement measured in PISA?

To examine parents' involvement in school-related activities, PISA 2018 asked principals about the proportion of students' parents who, during the previous school year, participated in the following school-related activities:

- ▶ *Discussed their child's progress with a teacher on their own initiative.*
- ▶ *Discussed their child's progress on the initiative of one of their child's teachers.*
- ▶ *Participated in local school government (e.g. parent council or school management committee).*
- ▶ *Volunteered in physical or extra-curricular activities.*

Principals were asked to respond to each of the statements by entering the percentage of parents who had participated in each activity during the previous school year.²⁸

High percentages indicate that principals reported greater parental involvement, while low percentages are indicative of less parental involvement in school-related activities.

Parental involvement in an international context

Figure 6.1 shows principals' responses reporting the percentage of parents who had participated in each school-based activity.

- ▶ Principals in Australian schools reported on average 42% of parents at their school *discussed their child's progress with a teacher on their own initiative*. This percentage was similar for principals in schools in 12 countries (Estonia, New Zealand, Finland, the United Kingdom, Hong Kong (China), Korea, Sweden, Singapore, Canada, Chinese Taipei, the United States and Poland). The percentages were higher for principals in schools in B-S-J-Z (China) (nearly 70%), and lower (35% or less) for principals in schools in Denmark, Germany, Macao (China), Ireland, Norway, and Japan.
- ▶ Principals in Australian schools reported 54% of parents *discussed their child's progress on the initiative of one of their child's teachers*. This percentage was similar for principals in New Zealand, Germany and the United States. The percentages were higher for principals in 11 comparison countries, including Norway, Sweden, Macao (China) and Denmark, and lower for principals in Estonia, Korea, Chinese Taipei and Ireland.

²⁸ The results in this chapter are based on principals' estimates of how many parents participated in school-related activities. Principals may not have observed unprompted parent-teacher interactions.

- ▶ Principals in Australian schools reported 7% of parents at their school *participated in local school government* (e.g. parent council or management committee), which was similar to the percentage of principals in schools in Canada, Finland and Ireland. The percentage was higher for principals in 15 comparison countries, including B-S-J-Z (China), Chinese Taipei, Korea and Macao (China), and lower for principals in schools in New Zealand and the United Kingdom.
- ▶ Principals in Australian schools reported 10% of parents at their school *volunteered in physical or extra-curricular activities*. This was similar for principals in schools in Hong Kong (China), Korea, Sweden, Canada, Germany, and Ireland. The percentages were higher for principals in 11 comparison countries, including B-S-J-Z (China), Chinese Taipei, the United States and Estonia, and lower for principals in schools in Finland and the United Kingdom.

Country	Percentage of students' whose principals reported parents participated in school-related activities			
	Discussed their child's progress with a teacher on their own initiative	Discussed their child's progress on the initiative of one of their child's teachers	Participated in local school government	Volunteered in physical or extra-curricular activities
Australia	42	54	7	10
B-S-J-Z (China)	69	67	41	32
Canada	44	52	7	11
Chinese Taipei	44	45	33	26
Denmark	35	84	10	18
Estonia	39	50	17	19
Finland	41	69	8	8
Germany	35	50	10	10
Hong Kong (China)	41	71	20	13
Ireland	32	44	8	8
Japan	13	78	20	18
Korea	42	46	33	12
Macao (China)	35	85	29	16
New Zealand	40	55	5	14
Norway	29	88	11	17
Poland	46	63	22	18
Singapore	43	75	12	12
Sweden	42	86	10	12
United Kingdom	41	69	5	6
United States	45	50	14	23
OECD average	41	57	17	12

Note: Countries are listed in alphabetical order. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 6.1 Percentage of parents involved in school-related activities, for Australia and comparison countries

Parental involvement in a national context

In PISA 2012, principals were asked the same questions about the extent to which students' parents were involved in school-related activities.²⁹ Figure 6.2 shows the percentage of Australian PISA 2012 principals who reported parental involvement in school-related activities, along with the change in the percentage of parental involvement between PISA 2012 and 2018.

- ▶ Between 2012 and 2018, on average, the percentage of principals who reported parents *discussed their child's progress with a teacher on their own initiative* increased by 16 percentage points, and the percentage of principals who reported parents *discussed their child's progress on the initiative of one of their child's teachers* increased by 14 percentage points over the 6-year period.

29 The item *volunteered in physical or extra-curricular activities* was worded as two separate items in 2012 and is therefore not comparable across both cycles.

Percentage of students' parents who participated in school-related activities in 2012, and the difference between PISA 2012 and 2018					
Discussed their child's progress with a teacher on their own initiative		Discussed their child's progress on the initiative of one of their child's teachers		Participated in local school government	
2012	Change over time	2012	Change over time	2012	Change over time
26	▲ 16 pp	41	▲ 14 pp	5	▲ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

There is no comparison for volunteered in physical or extra-curricular activities as this statements was worded as two separate items in PISA 2012.

FIGURE 6.2 Percentage of parents involved in school-related activities in PISA 2012, and the difference between PISA 2012 and 2018

Figure 6.3 presents the percentages of principals who reported parents participated in school-related activities, by jurisdiction. Principals reported:

- ▶ Thirty-seven per cent of parents in New South Wales, and Tasmania to 48% of parents in South Australia *discussed their child's progress with a teacher on their own initiative*.
- ▶ Thirty-nine per cent of parents in the Northern Territory to 63% of parents in South Australia *discussed their child's progress on the initiative of one of their child's teachers*.
- ▶ Four per cent of parents in the Northern Territory to 9% of parents in South Australia and Tasmania *participated in local school government (e.g. parent council or school management)*.
- ▶ Eight per cent of parents in New South Wales to 18% of parents in Tasmania *volunteered in physical or extra-curricular activities*.

State/Territory	Percentage of students' whose principals reported parents participated in school-related activities			
	Discussed their child's progress with a teacher on their own initiative	Discussed their child's progress on the initiative of one of their child's teachers	Participated in local school government	Volunteered in physical or extra-curricular activities
ACT	44	57	6	9
NSW	37	48	8	8
VIC	42	60	5	10
QLD	43	55	8	12
SA	48	63	9	10
WA	47	53	7	11
TAS	37	58	9	18
NT	41	39	4	10

FIGURE 6.3 Percentage of parents involved in school-related activities, by state and territory

Figure 6.4 shows the percentages of principals who reported parental involvement in school-related activities, along with the change in the percentage of parental involvement between PISA 2012 and 2018.

- ▶ Overall, in 2018 irrespective of jurisdiction, principals reported that more parents *discussed their child's progress with a teacher on their own initiative*, ranging from a 14 percentage point increase in New South Wales to a 25 percentage point increase in South Australia.
- ▶ In all jurisdictions with the exception of the Australian Capital Territory, principals reported changes in the percentage of parents who *discussed their child's progress on the initiative of one of their child's teachers*, ranging from an 18 percentage point increase in South Australia to a 17 percentage point decrease in the Northern Territory.
- ▶ Less pronounced was the change in the percentage of principals between 2012 and 2018 reporting parents *participated in local school government*, ranging from a 2 percentage point increase in Victoria and Western Australia to a 5 percentage point increase in South Australia.

State/Territory	Percentage of students' whose principals reported parents participated in school-related activities					
	Discussed their child's progress with a teacher on their own initiative		Discussed their child's progress on the initiative of one of their child's teachers		Participated in local school government	
	2012	Change over time	2012	Change over time	2012	Change over time
ACT	26	▲ 19 pp	59	▽ 3 pp	6	0 pp
NSW	23	▲ 14 pp	35	▲ 13 pp	6	△ 2 pp
VIC	27	▲ 15 pp	43	▲ 16 pp	3	▲ 2 pp
QLD	28	▲ 15 pp	43	▲ 12 pp	4	▲ 3 pp
SA	23	▲ 25 pp	44	▲ 18 pp	4	▲ 5 pp
WA	28	▲ 19 pp	40	▲ 13 pp	6	▲ 2 pp
TAS	20	▲ 17 pp	42	▲ 16 pp	4	▲ 4 pp
NT	22	▲ 18 pp	56	▽ 17 pp	5	▽ 1 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 6.4 Percentage of parents involved in school-related activities in 2012, and the difference between PISA 2012 and 2018, by state and territory

Figure 6.5 presents the percentages of principals who reported parent's involvement in school-related activities, by school sector.

- ▶ A lower percentage of principals in government schools (38%) reported parents *discussed their child's progress with a teacher on their own initiative* and *discussed their child's progress on the initiative of one of their child's teachers* (51%) than parents in Catholic (49% and 60% respectively) and independent schools (45% and 57% respectively).
- ▶ A higher percentage of principals in Catholic schools (10%) reported parents *participated in local government* (e.g. *parent council or school management committee*) than parents in government schools (6%).
- ▶ A higher percentage of principals in independent schools (17%) reported parents *volunteered in physical or extra-curricular activities* than parents in government (7%) and Catholic schools (11%).

School sector	Percentage of students' whose principals reported parents participated in school-related activities			
	Discussed their child's progress with a teacher on their own initiative	Discussed their child's progress on the initiative of one of their child's teachers	Participated in local school government	Volunteered in physical or extra-curricular activities
Government	38	51	6	7
Catholic	49	60	10	11
Independent	45	57	7	17

FIGURE 6.5 Percentage of parents involved in school-related activities, by school sector

Figure 6.6 shows principals reported an increase in the percentage of parental participation in school-related activities between PISA 2012 and 2018 across all school sectors.

- ▶ In 2018, more principals, irrespective of school sector, reported parents *discussed their child's progress with a teacher on their own initiative*. There was a 10 percentage point increase in independent schools, a 16 percentage point increase for in government schools, and a 20 percentage point increase in Catholic schools.
- ▶ In 2018, more principals in Catholic schools reported that parents *discussed their child's progress on the initiative of their child's teachers* than in government or independent schools. There was a 9 percentage point increase in independent schools, a 13 percentage point increase in government schools, and a 19 point increase in Catholic schools.

School sector	Percentage of students' whose principals reported parents participated in school-related activities					
	Discussed their child's progress with a teacher on their own initiative		Discussed their child's progress on the initiative of one of their child's teachers		Participated in local school government	
	2012	Change over time	2012	Change over time	2012	Change over time
Government	22	▲ 16 pp	38	▲ 13 pp	4	▲ 2 pp
Catholic	28	▲ 20 pp	41	▲ 19 pp	5	▲ 5 pp
Independent	35	▲ 10 pp	48	▲ 9 pp	7	0 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 6.6 Percentage of parents involved in school-related activities in 2012, and the difference between PISA 2012 and 2018, by school sector

Parental involvement for different demographic groups in a national context

Figure 6.7 presents the percentages of principals who reported parental involvement in school-related activities for the different demographic groups. The differences were as follows:

- ▶ A lower percentage of principals reported the parents of the most disadvantaged students (38%) *discussed their child's progress with a teacher on their own initiative* than parents of the least disadvantaged students (45%), while 53% of the parents of the most disadvantaged students *discussed their child's progress on the initiative of one of their child's teachers* compared to 56% of parents of the least disadvantaged students.
- ▶ A higher percentage of principals reported in metropolitan schools parents *discussed their child's progress with a teacher on their own initiative* (43%) than parents in provincial schools (36%).
- ▶ A lower percentage of principals reported parents of Indigenous students *discussed their child's progress with a teacher on their own initiative* (35%) compared to parents of non-Indigenous students (42%), while principals also reported a lower percentage of parents of Indigenous students *discussed their child's progress with a teacher on the initiative of one of their child's teachers* (48%) compared to parents of non-Indigenous students (55%).

Demographic group	Percentage of students' whose principals reported parents participated in school-related activities			
	Discussed their child's progress with a teacher on their own initiative	Discussed their child's progress on the initiative of one of their child's teachers	Participated in local school government	Volunteered in physical or extra-curricular activities
Sex				
Females	41	55	7	10
Males	42	53	7	10
Socioeconomic background				
Most disadvantaged students	38	53	6	8
Socioeconomically average students	42	54	7	10
Least disadvantaged students	45	56	8	13
Geographic location of schools				
Metropolitan	43	54	7	10
Provincial	36	54	7	10
Remote	36	63	7	8
Indigenous background				
Indigenous	35	48	7	8
Non-Indigenous	42	55	7	10
Immigrant background				
Australian-born	41	55	7	11
First-generation	42	54	7	10
Foreign-born	42	52	6	10

FIGURE 6.7 Percentage of parents involved in school-related activities, for different demographic groups

Figure 6.8 shows the change between PISA 2012 and 2018 in the percentages of Australian principals reporting parents who participated in school-related activities for the different demographic groups, and the significance of these changes.

Between 2012 and 2018:

- ▶ There was a 17 percentage point increase in the percentage of principals reporting male students' parents who *discussed their child's progress with a teacher on their own initiative*, while there was a 15 percentage point increase for female students' parents, while a similar percentage point increase for male and female students' parents who *discussed their child's progress on the initiative of one of their child's teachers*.
- ▶ Principals reported similar increases in parents of the most disadvantaged students (16 percentage points) who *discussed their child's progress with teacher on their own initiative* and *discussed their child's progress on the initiative of one of their child's teachers* (14 percentage points) as that of parents of the least disadvantaged students (14 and 13 percentage points respectively).
- ▶ Principals in metropolitan schools reported similar increases in parents (13 percentage points) who *discussed their child's progress with a teacher on the initiative of one of their child's teachers* as did principals in provincial schools (15 percentage points).
- ▶ An equal percentage of principals reported an increase in parents of Indigenous students and non-Indigenous students who *discussed their child's progress with a teacher on their own initiative* (16 percentage points), while principals reported a higher increase in parents of non-Indigenous students who *discussed their child's progress with a teacher on the initiative of one of their child's teachers* (14 percentage points) compared to parents of Indigenous students (9 percentage points).
- ▶ An equal percentage of principals reported an increase in parents of Australian-born students and parents of foreign-born students who *discussed their child's progress with teacher on their own initiative* (16 percentage points), while a higher percentage of principals reported parents of Australian-born students who *discussed their child's progress with a teacher on the initiative of*

one of their child's teachers (15 percentage points) compared to parents of foreign-born students (10 percentage points).

Demographic group	Percentage of students' whose principals reported parents participated in school-related activities					
	Discussed their child's progress with a teacher on their own initiative		Discussed their child's progress on the initiative of one of their child's teachers		Participated in local school government	
	2012	Change over time	2012	Change over time	2012	Change over time
Sex						
Females	41	▲ 15 pp	55	▲ 14 pp	7	▲ 2 pp
Males	42	▲ 17 pp	53	▲ 13 pp	7	△ 2 pp
Socioeconomic background						
Most disadvantaged students	38	▲ 16 pp	53	▲ 14 pp	6	▲ 2 pp
Socioeconomically average students	42	▲ 17 pp	54	▲ 14 pp	7	▲ 2 pp
Least disadvantaged students	45	▲ 14 pp	56	▲ 13 pp	8	▲ 3 pp
Geographic location of schools						
Metropolitan	43	▲ 16 pp	54	▲ 13 pp	7	▲ 3 pp
Provincial	36	▲ 15 pp	54	▲ 15 pp	7	△ 1 pp
Remote	36	△ 18 pp	63	△ 21 pp	7	▽ 1 pp
Indigenous background						
Indigenous	35	▲ 16 pp	48	▲ 9 pp	7	△ 2 pp
Non-Indigenous	42	▲ 16 pp	55	▲ 14 pp	7	△ 2 pp
Immigrant background						
Australian-born	41	▲ 16 pp	55	▲ 15 pp	7	▲ 2 pp
First-generation	42	▲ 14 pp	54	▲ 13 pp	7	▲ 2 pp
Foreign-born	42	▲ 16 pp	52	▲ 10 pp	6	▲ 2 pp

Notes: Change over time represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 6.8 Percentage of parents involved in school-related activities in 2012, and the difference between PISA 2012 and 2018, for different demographic groups

Parental involvement and reading literacy performance

Figure 6.9 shows overall that the percentage of principals reporting parents' participation in school-related activities was fairly similar for high performing students and low performing students. The largest differences observed between the reading literacy performers were:

- ▶ a 6 percentage point difference between the parents of low performing students (39%) who *discussed their child's progress with a teacher on their own initiative* compared to 45% of the parents of high performing students.
- ▶ a 3 percentage point difference between the parents of low performing students (6%) who *participated in local school government (e.g. parent council or school management committee)* compared to 9% of the parents of high performing students.
- ▶ a 4 percentage point difference between the parents of low performing students (8%) who *volunteered in physical or extra-curricular activities* compared to 12% of the parents of high performing students.

Reading literacy performance	Percentage of students' whose principals reported parents participated in school-related activities			
	Discussed their child's progress with a teacher on their own initiative	Discussed their child's progress on the initiative of one of their child's teachers	Participated in local school government	Volunteered in physical or extra-curricular activities
Low performers	39	53	6	8
Middle performers	43	55	8	11
High performers	45	55	9	12

FIGURE 6.9 Percentage of parents involved in school-related activities, by reading literacy performance group

Figure 6.10 shows the change between PISA 2012 and 2018 in the percentages of Australian principals reporting parents who participated in school-related activities by reading literacy performance group, and the significance of these changes.

Between 2012 and 2018:

- ▶ There was an 18 percentage point increase in the percentage of principals reporting low performing student's parents who *discussed their child's progress with a teacher on their own initiative*, while there was a 10 percentage point increase for high performing student's parents.
- ▶ Principals reported a similar percentage point increase for both low and high performing students' parents who *discussed their child's progress on the initiative of one of their child's teachers* (14 and 15 percentage points respectively).

Reading literacy performance	Percentage of students' whose principals reported parents participated in school-related activities					
	Discussed their child's progress with a teacher on their own initiative		Discussed their child's progress on the initiative of one of their child's teachers		Participated in local school government	
	2012	Change over time	2012	Change over time	2012	Change over time
Low performers	21	▲ 18 pp	39	▲ 14 pp	4	▲ 2 pp
Middle performers	26	▲ 16 pp	41	▲ 14 pp	5	▲ 3 pp
High performers	35	▲ 10 pp	40	▲ 15 pp	5	▲ 4 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

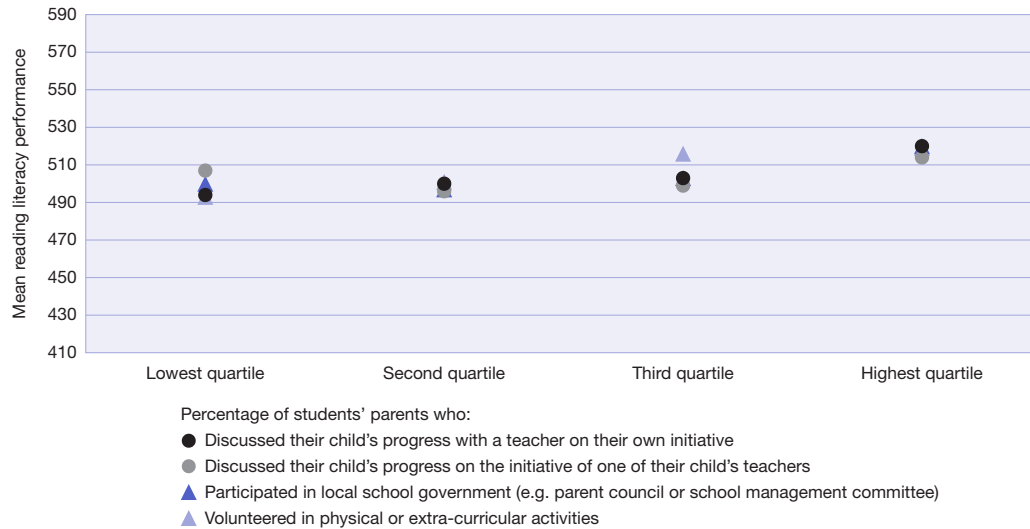
FIGURE 6.10 Percentage of parents involved in school-related activities in PISA 2012, and the difference between PISA 2012 and 2018, by reading literacy performance group

Figure 6.11 shows the relationship between parental involvement in each school-related activity as reported in percentages by the principal (presented as quartiles) and reading literacy performance.

There was very little association between the percentage of principals who reported parents *discussed their child's progress with a teacher on their own initiative* and reading literacy performance ($r = 0.08$); *discussed their child's progress on the initiative of one of their child's teachers* and reading literacy performance ($r = 0.02$); *participated in local school government* (e.g. parent council or school management committee) and reading literacy performance ($r = 0.07$); and *volunteered in physical or extra-curricular activities* and reading literacy performance ($r = 0.09$).

- ▶ Students whose principals reported parents *discussed their child's progress with a teacher on their own initiative* scored 26 points (three-quarters of a year of schooling) higher in reading literacy performance than students whose principals reported this activity occurred less frequently among parents.
- ▶ Students whose principals reported parents *discussed their child's progress on the initiative of one of their child's teachers* scored 7 points (almost one-quarter of a year of schooling) higher in reading literacy performance than students whose principals reported this activity occurred less frequently among parents.

- ▶ Students whose principals reported parents *participated in local school government* scored 20 points (over half a year of schooling) higher in reading literacy performance than students whose principals reported this activity occurred less frequently among parents.
- ▶ Students whose principals reported parents *volunteered in physical or extra-curricular activities* scored 25 points (three-quarters of a year of schooling) higher in reading literacy performance than students whose principals reported this activity occurred less frequently among parents.



Note: Quartiles are based on percentages.

FIGURE 6.11 Relationship between parental involvement and reading literacy performance, for Australia

Exposure to bullying at school

Bullying is defined as 'aggressive, intentional acts carried out by a group or an individual repeatedly and over time against a victim who cannot easily defend him or herself' (Olweus, 1993, p. 48). Bullying can be physical (hitting, kicking), verbal (abuse, insults) indirect or relational (rumour spreading or social exclusion), and in recent times there has been more awareness about cyber bullying (Smith, 2016). Bullying influences academic achievement, school bonding and absenteeism (Dake, Price, & Telljohann, 2009).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in students' exposure to bullying at school and how they vary by student characteristics. It also explores the change in bullying since the previous PISA cycle, and the relationship between bullying and reading literacy performance.

Key findings

- On average, Australian students reported similar levels of exposure to bullying at school as students in New Zealand, and more exposure to bullying than students in the other comparison countries.
- In Australia, the following bullying behaviours occurred at school a few times a month or more: 7% of students reported that *other students took away or destroyed things that belonged to me* a few times a month or once a week or more, 9% of students reported that *I was threatened by other students*, 9% of students reported that *I got hit or pushed around by other students*, 13% of students reported that *other students spread nasty rumours about me*, 14% of students reported that *other students left me out of things on purpose*, and 21% of students reported that *other students made fun of me*.
- Students' exposure to bullying at school increased between PISA 2015 and 2018. For instance, there was a 6 percentage point increase for Australian students who reported that *other students made fun of me* a few times a month or more.
- Students in the Northern Territory and Tasmania reported similar levels of exposure to bullying which were at higher levels than the other jurisdictions.

- ➔ Students in government schools reported more exposure to bullying at school than students in Catholic and independent schools, while students in Catholic and independent schools reported similar levels of exposure to bullying.
- ➔ Male students reported more exposure to bullying at school than female students.
- ➔ The most disadvantaged students reported more exposure to bullying at school than the least disadvantaged students.
- ➔ Students in provincial schools reported more exposure to bullying than students in metropolitan schools.
- ➔ Indigenous students reported more exposure to bullying at school than non-Indigenous students.
- ➔ Australian-born students reported more exposure to bullying at school than first-generation students, who in turn reported more exposure to bullying than foreign-born students.
- ➔ Students in the highest quartile of the bullying index scored on average 30 points lower (almost one year of schooling) in reading literacy performance than students in the lowest quartile.

How is bullying measured in PISA?

Students' exposure to bullying was measured by asking students how frequently the following experiences had occurred during the past 12 months in school, including those that happened in social media:

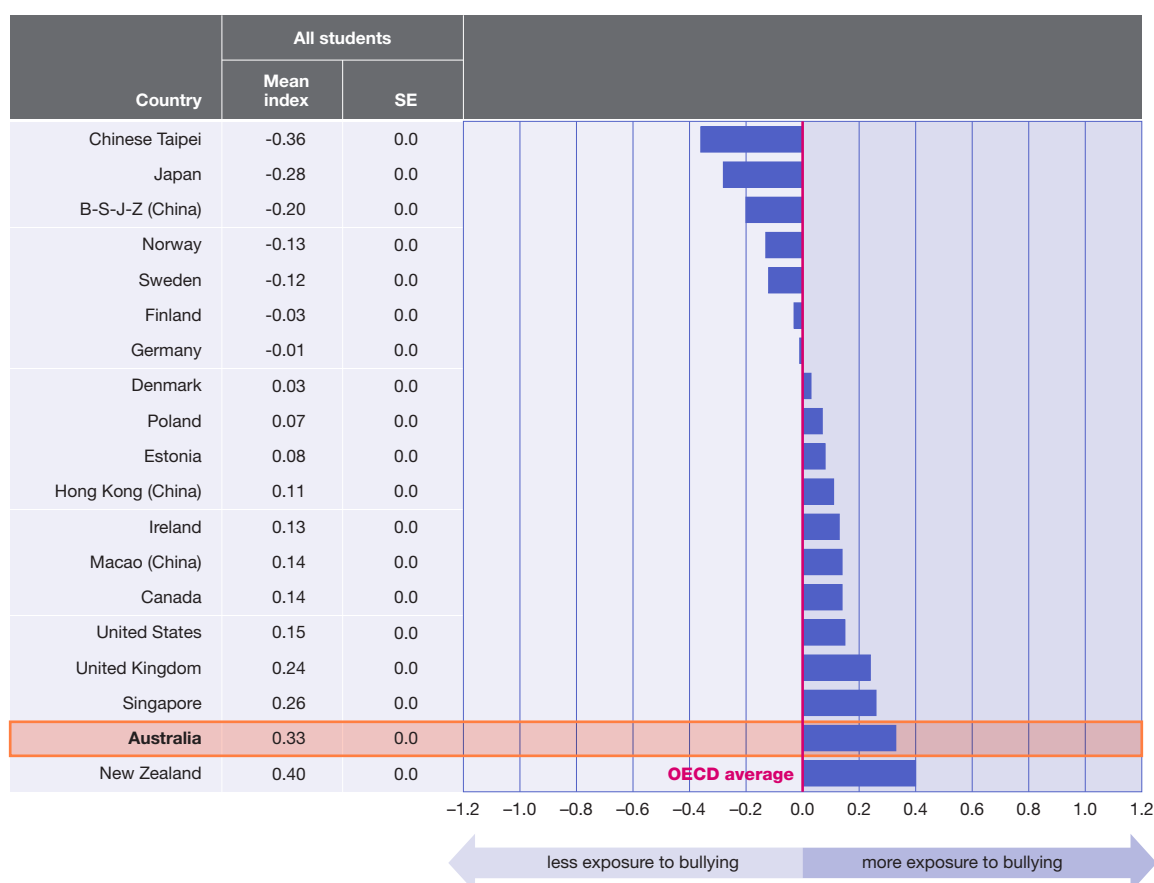
- ▶ *Other students left me out of things on purpose.*
- ▶ *Other students made fun of me.*
- ▶ *I was threatened by other students.*
- ▶ *Other students took away or destroyed things that belonged to me.*
- ▶ *I got hit or pushed around by other students.*
- ▶ *Other students spread nasty rumours about me.*

Students were asked to respond to each of the statements on a four-point scale (*never or almost never, a few times a year, a few times a month, once a week or more*).

The first three statements were combined to construct the index of exposure to bullying. The index, was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values on the index indicate that the student was more exposed to bullying at schools than the average student across the OECD, while negative values indicate that the student was less exposed to bullying at school than the average student across the OECD.

Bullying in an international context

Figure 7.1 shows the mean index scores for Australia, the comparison countries, and the OECD average on the exposure to bullying index. Students in Australia reported more exposure to bullying than students in the comparison countries, except for students in New Zealand, who attained the highest mean score on the index. The mean index score of 0.33 for Australia was higher than the OECD average of 0.00.



Notes: Data not available for Korea. Countries with the lowest mean score on the exposure to bullying at school index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 7.1 Exposure to bullying index, for Australia and comparison countries

Figure 7.2 presents the percentages of students who reported exposure to bullying-related behaviours that occurred a few times a month or once a week or more.³⁰

The data shows that verbal and relational bullying was more prevalent than physical bullying, and that Australian students reported experiencing bullying-related behaviours at school more frequently than students in the comparison countries.

- ▶ Fourteen per cent of Australian students reported that *other students left me out of things on purpose* frequently, which was similar to the percentage of students from New Zealand and the United States, and higher than the percentage of students from the 17 remaining comparison countries, and for students on average across OECD countries.
- ▶ Twenty-one per cent of Australian students reported that *other students made fun of me* frequently, which was similar to the percentage of students from Macao (China), Singapore and the United Kingdom, lower than the percentage of students in Hong Kong (China) and New Zealand, and higher than the percentage of students from the 14 remaining comparison countries, including Korea, Chinese Taipei, B-S-J-Z (China), Sweden, and the OECD average.
- ▶ Nine per cent of Australian students reported that *I was threatened by other students* frequently, which was similar to the percentage of students in New Zealand, and was higher than the percentage of students in the 18 remaining comparison countries, and for students on average across the OECD countries.
- ▶ Seven per cent of Australian students reported that *other students took away or destroyed things that belonged to me* frequently, which was similar to the percentage of students in New Zealand,

30 For ease of reading, from this point onward 'a few times a month' or 'once a week or more' will be referred to as 'frequently'.

Germany, Estonia, and the OECD average, lower than the percentage of students in B-S-J-Z (China), Hong Kong (China), Poland and Macao (China), and higher than the percentage of students in the 12 remaining comparison countries, including Korea, Japan, Finland and Denmark.

- ▶ Nine per cent of Australian students reported that *I got hit or pushed around by other students* frequently, which was similar to the percentage of students in Hong Kong (China), New Zealand and Poland, and higher than the percentage of students in the 17 remaining comparison countries, and the OECD average.
- ▶ Thirteen per cent of Australian students reported that *other students spread nasty rumours about me* frequently, which was similar to the percentage of students in New Zealand, lower than the percentage of students in Poland, and higher than the percentage of students in the 17 remaining comparison countries, the OECD average.

Country	Percentage of students who reported the following occurred at least a few times a month					
	Other students left me out of things on purpose	Other students made fun of me	I was threatened by other students	Other students took away or destroyed things that belonged to me	I got hit or pushed around by other students	Other students spread nasty rumours about me
Korea	1	8	1	1	1	2
Chinese Taipei	4	9	2	5	1	5
Japan	4	14	2	3	6	5
B-S-J-Z (China)	5	10	3	10	3	5
Norway	5	12	4	5	5	7
Sweden	6	12	4	5	7	8
Finland	7	12	4	3	5	7
Germany	7	13	5	7	5	10
Denmark	6	13	3	5	6	7
Poland	9	14	7	9	8	16
Estonia	8	17	6	6	7	9
Hong Kong (China)	8	23	6	9	9	11
Ireland	9	16	6	5	6	8
Macao (China)	7	21	7	9	6	11
Canada	11	17	6	5	7	10
United States	13	17	7	5	5	10
United Kingdom	11	20	7	5	7	10
Singapore	10	20	5	5	6	9
Australia	14	21	9	7	9	13
New Zealand	14	23	10	7	9	13
OECD average	9	14	6	7	7	10

Note: Countries are listed from the lowest to highest mean score on the bullying at school index, with the exception of Korea, which has been listed at the top of the figure. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 7.2 Percentage of students who reported how often they were exposed to bullying at school, for Australia and comparison countries

In PISA 2015, students were asked the same questions about bullying as in PISA 2018. Figure 7.3 shows the percentage of Australian PISA 2015 students who reported experiencing bullying behaviours frequently, along with the change in the percentage of students between PISA 2015 and 2018, and the significance of this change.

A comparison between the two cycles reveals that students' exposure to bullying-related behaviours increased during this 3-year period. The largest increase in bullying-related behaviours for Australian students between this 3-year period was in *other students made fun of me*, which increased by 6 percentage points.

Percentage of students who reported the following occurred at least a few times a month											
Other students left me out of things on purpose		Other students made fun of me		I was threatened by other students		Other students took away or destroyed things that belonged to me		I got hit or pushed around by other students		Other students spread nasty rumours about me	
2015	Change over time	2015	Change over time	2015	Change over time	2015	Change over time	2015	Change over time	2015	Change over time
13	△ 1 pp	15	▲ 6 pp	7	▲ 2 pp	6	▲ 1 pp	6	▲ 3 pp	11	▲ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2015.

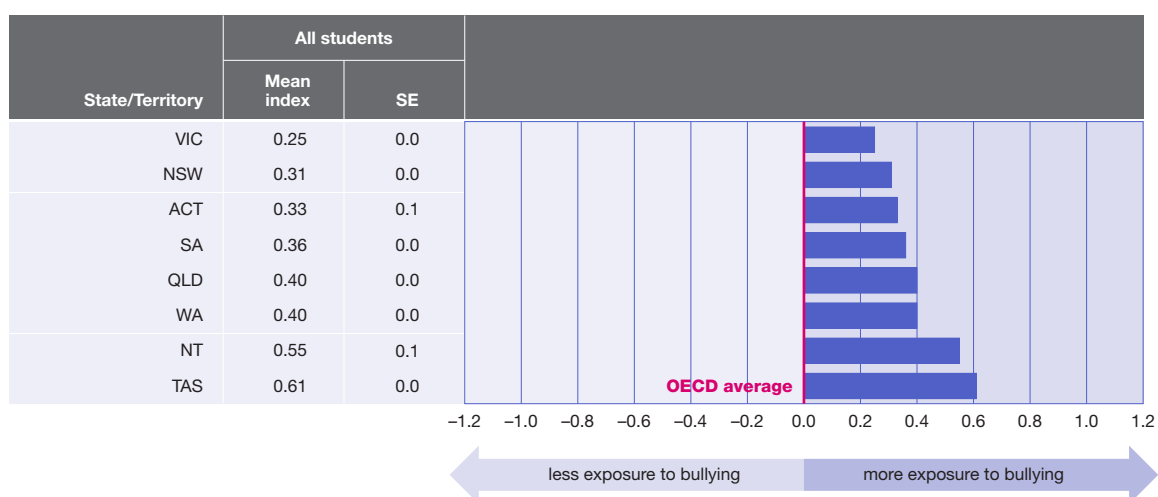
▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 7.3 Percentage of students who reported how often they were exposed to bullying at school in PISA 2015, and the difference between PISA 2015 and 2018, for Australia

Bullying in a national context

Figure 7.4 shows that all jurisdictions reported higher levels of bullying than the OECD average. Students in the Northern Territory and Tasmania reported the highest mean scores on this index, reporting more exposure to bullying than the other jurisdictions. Students in Victoria, New South Wales and the Australian Capital Territory reported lower levels of exposure to bullying-related behaviours.



Note: Jurisdictions with the lowest mean score on the bullying at school index are placed at the top of the figure and jurisdictions with the highest mean score on the index are placed at the bottom.

FIGURE 7.4 Exposure to bullying index, by state and territory

Figure 7.5 shows the percentages of students who reported exposure to bullying-related behaviours that occurred frequently for the jurisdictions. There were more than 1 in 10 students across all jurisdictions who reported that some of the bullying-related behaviours occurred frequently:

- ▶ Eleven per cent of students in Victoria to 20% of students in the Northern Territory reported that *other students left me out of things on purpose*.
- ▶ Nineteen per cent of students in Victoria to 25% of students in Tasmania reported that *other students made fun of me*.
- ▶ Ten per cent of students in Victoria to 17% of students in the Northern Territory reported that *other students spread nasty rumours about me*.

State/Territory	Percentage of students who reported the following occurred at least a few times a month					
	Other students left me out of things on purpose	Other students made fun of me	I was threatened by other students	Other students took away or destroyed things that belonged to me	I got hit or pushed around by other students	Other students spread nasty rumours about me
VIC	11	19	7	6	8	10
NSW	13	21	9	7	9	12
ACT	15	20	9	7	10	12
SA	14	21	10	7	10	13
QLD	16	22	12	9	10	15
WA	14	22	9	8	9	14
NT	20	24	12	11	12	17
TAS	19	25	12	10	12	14

Note: Jurisdictions are listed from the lowest to highest mean score on the bullying at school index.

FIGURE 7.5 Percentage of students who reported how often they were exposed to bullying at school, by state and territory

Figure 7.6 shows the percentages of PISA 2015 students who reported experiencing bullying behaviours frequently, along with the change in the percentage of students between PISA 2015 and 2018, by jurisdiction, and the significance of this change.

In the Australian Capital Territory, there were no changes in students' reports on the various behaviours between PISA 2015 and 2018, while in Western Australia, the percentages of students increased over a 3-year period on each of the behaviours.

State/Territory	Percentage of students who reported the following occurred at least a few times a month					
	Other students left me out of things on purpose		Other students made fun of me		I was threatened by other students	
	2015	Change over time	2015	Change over time	2015	Change over time
VIC	11	0 pp	13	▲ 6 pp	6	△ 1 pp
NSW	13	0 pp	15	▲ 6 pp	7	△ 2 pp
ACT	14	△ 1 pp	19	△ 1 pp	8	△ 1 pp
SA	13	△ 1 pp	16	▲ 5 pp	7	▲ 3 pp
QLD	14	△ 2 pp	17	▲ 5 pp	9	▲ 3 pp
WA	12	▲ 2 pp	15	▲ 7 pp	6	▲ 3 pp
NT	13	▲ 7 pp	15	▲ 9 pp	9	△ 3 pp
TAS	15	△ 4 pp	21	△ 4 pp	9	▲ 3 pp

State/Territory	Other students took away or destroyed things that belonged to me		I got hit or pushed around by other students		Other students spread nasty rumours about me	
	2015	Change over time	2015	Change over time	2015	Change over time
	2015	Change over time	2015	Change over time	2015	Change over time
VIC	5	0 pp	5	▲ 3 pp	10	0 pp
NSW	5	△ 1 pp	6	▲ 3 pp	11	△ 1 pp
ACT	8	▽ 1 pp	8	△ 2 pp	12	0 pp
SA	5	△ 1 pp	5	▲ 5 pp	10	▲ 3 pp
QLD	7	▲ 2 pp	6	▲ 4 pp	13	△ 2 pp
WA	4	▲ 4 pp	4	▲ 5 pp	11	▲ 3 pp
NT	5	▲ 6 pp	5	▲ 7 pp	10	▲ 7 pp
TAS	7	△ 3 pp	7	▲ 5 pp	12	△ 2 pp

Notes: Change over time represents the percentage point (pp) difference between PISA 2018 and 2015.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 7.6 Percentage of students who reported how often they were exposed to bullying at school in PISA 2015, and the difference between PISA 2015 and 2018, by state and territory

Figure 7.7 shows that students in government schools reported more exposure to bullying at school than students in Catholic and independent schools, while students in Catholic schools reported similar levels of exposure to bullying to students in independent schools.

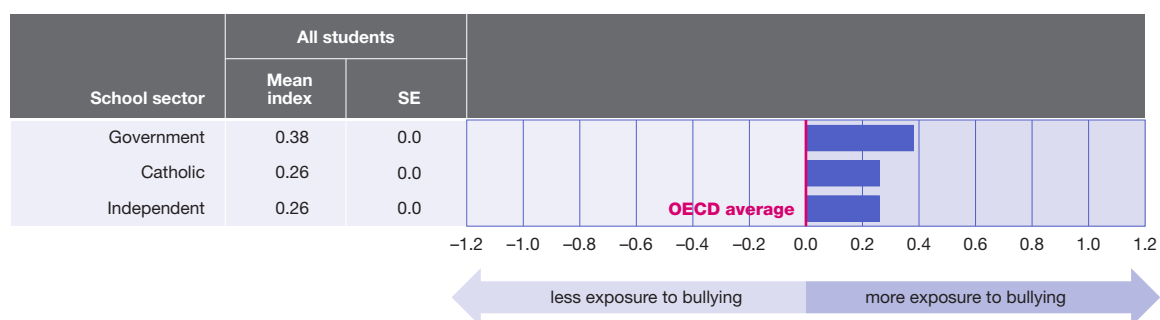


FIGURE 7.7 Exposure to bullying index, by school sector

Figure 7.8 shows that students in government schools reported the various behaviours occurring more frequently than students in Catholic or independent schools, except for one of the behaviours, *I got hit or pushed around by other students*, where students in government and Catholic schools reported a similar frequency of this behaviour.

Students in Catholic and independent schools reported similar frequencies of the bullying-related behaviours occurring in school.

School sector	Percentage of students who reported the following occurred at least a few times a month					
	Other students left me out of things on purpose	Other students made fun of me	I was threatened by other students	Other students took away or destroyed things that belonged to me	I got hit or pushed around by other students	Other students spread nasty rumours about me
Government	15	22	11	8	10	14
Catholic	12	19	7	5	9	11
Independent	12	19	6	6	7	10

FIGURE 7.8 Percentage of students who reported how often they were exposed to bullying at school, by school sector

Figure 7.9 shows that there was an increase in the percentages of students, across all sectors, for three of the bullying-related behaviours (*other students made fun of me*, *I was threatened by other students*, and *I got hit or pushed around by other students*).

School sector	Percentage of students who reported the following occurred at least a few times a month					
	Other students left me out of things on purpose		Other students made fun of me		I was threatened by other students	
	2015	Change over time	2015	Change over time	2015	Change over time
Government	14	△ 1 pp	17	▲ 5 pp	9	▲ 2 pp
Catholic	11	△ 1 pp	14	▲ 5 pp	5	▲ 2 pp
Independent	11	△ 1 pp	12	▲ 7 pp	5	▲ 1 pp

School sector	Other students took away or destroyed things that belonged to me		I got hit or pushed around by other students		Other students spread nasty rumours about me	
	2015	Change over time	2015	Change over time	2015	Change over time
Government	7	▲ 1 pp	7	▲ 3 pp	13	△ 1 pp
Catholic	4	△ 1 pp	5	▲ 4 pp	10	△ 1 pp
Independent	4	▲ 2 pp	4	▲ 3 pp	8	▲ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2015.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 7.9 Percentage of students who reported how often they were exposed to bullying at school in PISA 2015, and the difference between PISA 2015 and 2018, by school sector

Bullying for different demographic groups in a national context

Figure 7.10 shows the mean index scores on the exposure to bullying for students from different demographic groups.

- ▶ Male students reported more exposure to bullying at school than female students.
- ▶ The most disadvantaged students reported more exposure to bullying at school than the least disadvantaged students.
- ▶ Students in provincial schools reported more exposure to bullying than students in metropolitan schools.
- ▶ Indigenous students reported more exposure to bullying at school than non-Indigenous students.
- ▶ Australian-born students reported more exposure to bullying at school than first-generation students, who in turn reported more exposure to bullying than foreign-born students.

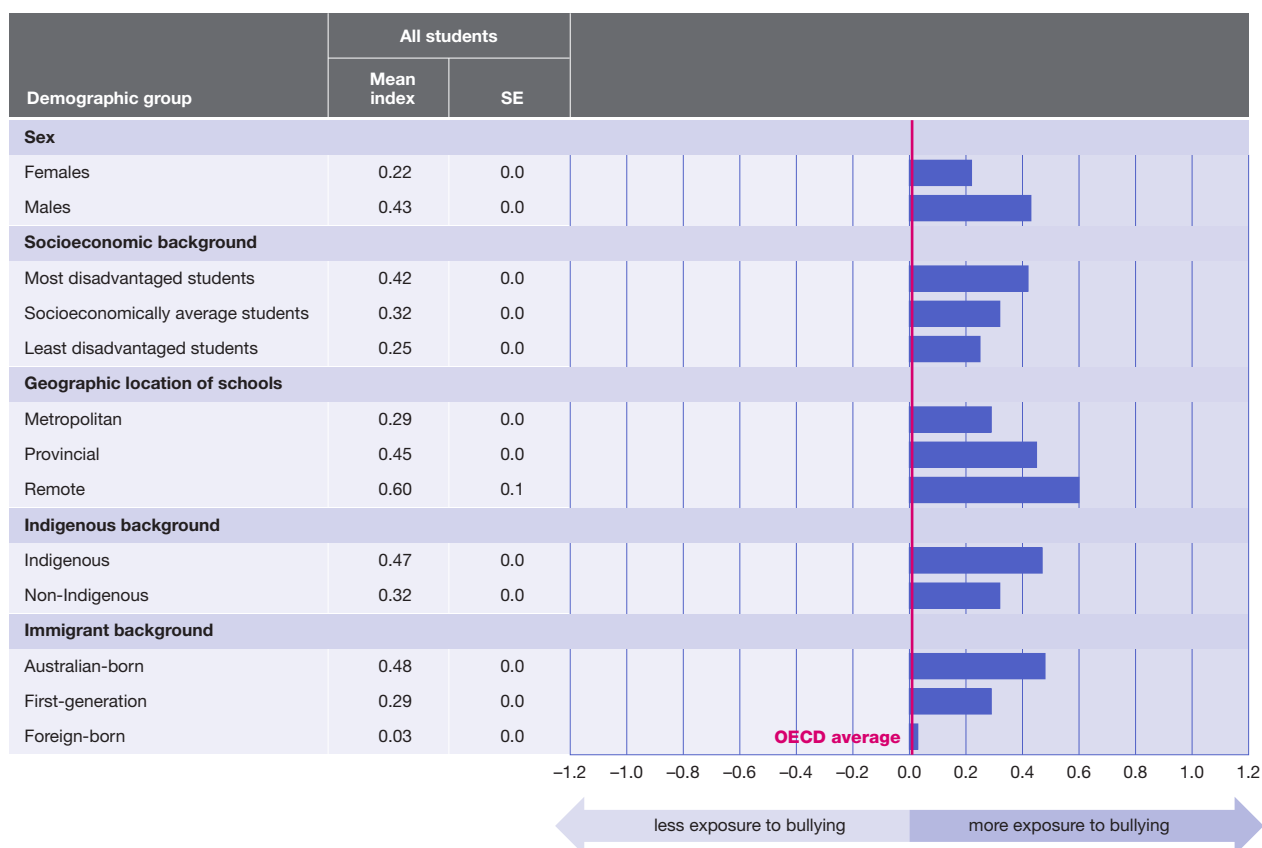


FIGURE 7.10 Exposure to bullying index, for different demographic groups

Figure 7.11 presents the percentages of students who reported each bullying behaviour occurring in school for the different demographic groups.

- ▶ There was a higher percentage of male students who reported frequent occurrences of *other students made fun of me, I was threatened by other students, other students took away or destroyed things that belonged to me, and I got hit or pushed around by other students* than female students.
- ▶ There was a higher percentage of the most disadvantaged students who reported frequent occurrences of *I was threatened by other students, other students took away or destroyed things that belonged to me, I got hit or pushed around by other students, and other students spread nasty rumours about me* than the least disadvantaged students.
- ▶ There was a higher percentage of students in remote schools who reported frequent occurrences of *I was threatened by other students, I got hit or pushed around by other students, and other students spread nasty rumours about me* than students in metropolitan schools.
- ▶ There was a higher percentage of Indigenous students who reported frequent occurrences of all the bullying behaviours than non-Indigenous students, except for *other students made fun of me* where there was no difference in the percentages between the two groups.
- ▶ There was a higher percentage of Australian-born students who reported frequent occurrences of *I was threatened by other students, other students spread nasty rumours about me, and other students make fun of me* than foreign-born students.

Demographic group	Percentage of students who reported the following occurred at least a few times a month			
	Other students left me out of things on purpose	Other students made fun of me	I was threatened by other students	Other students took away or destroyed things that belonged to me
Sex				
Females	14	17	7	5
Males	13	24	12	10
Socioeconomic background				
Most disadvantaged students	16	22	11	9
Socioeconomically average students	13	21	9	7
Least disadvantaged students	12	20	7	6
Geographic location of schools				
Metropolitan	13	20	8	6
Provincial	16	23	12	10
Remote	15	27	19	14
Indigenous background				
Indigenous	17	23	16	14
Non-Indigenous	13	21	9	7
Immigrant background				
Australian-born	14	22	10	7
First-generation	13	19	9	6
Foreign-born	12	20	7	7

Demographic group	I got hit or pushed around by other students	Other students spread nasty rumours about me
Sex		
Females	5	13
Males	13	12
Socioeconomic background		
Most disadvantaged students	11	16
Socioeconomically average students	9	12
Least disadvantaged students	8	11
Geographic location of schools		
Metropolitan	8	11
Provincial	11	15
Remote	18	24
Indigenous background		
Indigenous	15	19
Non-Indigenous	9	12
Immigrant background		
Australian-born	10	13
First-generation	9	12
Foreign-born	8	10

FIGURE 7.11 Percentage of students who reported how often they were exposed to bullying at school, for different demographic groups

Figure 7.12 presents the percentages of students in PISA 2015 who reported being frequently exposed to bullying behaviours, along with the change in the percentages of students over a 3-year period for the different demographic groups. The data shows that students' reports of *other students made fun of me* and *I got hit or pushed around by other students* from PISA 2015 to 2018 became more frequent across all groups, except for students in remote schools. The percentage of students who reported:

- ▶ *other students made fun of me* increased from 4 percentage points for students in provincial schools and the most disadvantaged students to 7 percentage points for foreign-born students and the least disadvantaged students.

- *I got hit or pushed around by other students* increased from 2 percentage points for female students to 8 percentage points for Indigenous students.

Demographic group	Percentage of students who reported the following occurred at least a few times a month					
	Other students left me out of things on purpose		Other students made fun of me		I was threatened by other students	
	2015	Change over time	2015	Change over time	2015	Change over time
Sex						
Females	13	△ 1 pp	12	▲ 5 pp	6	△ 1 pp
Males	12	△ 1 pp	18	▲ 6 pp	9	△ 3 pp
Socioeconomic background						
Most disadvantaged students	16	0 pp	18	▲ 4 pp	10	△ 1 pp
Socioeconomically average students	12	△ 1 pp	15	▲ 6 pp	7	▲ 2 pp
Least disadvantaged students	11	△ 1 pp	13	▲ 7 pp	6	▲ 1 pp
Geographic location of schools						
Metropolitan	11	▲ 2 pp	14	▲ 6 pp	6	▲ 2 pp
Provincial	17	▽ 1 pp	19	▲ 4 pp	10	▲ 2 pp
Remote	21	▽ 6 pp	23	△ 4 pp	13	△ 6 pp
Indigenous background						
Indigenous	16	△ 1 pp	17	▲ 6 pp	11	▲ 5 pp
Non-Indigenous	13	0 pp	15	▲ 6 pp	7	▲ 2 pp
Immigrant background						
Australian-born	14	0 pp	16	▲ 6 pp	8	▲ 2 pp
First-generation	12	△ 1 pp	14	▲ 5 pp	6	▲ 3 pp
Foreign-born	10	▲ 2 pp	13	▲ 7 pp	6	△ 1 pp
Demographic group	Other students took away or destroyed things that belonged to me		I got hit or pushed around by other students		Other students spread nasty rumours about me	
	2015	Change over time	2015	Change over time	2015	Change over time
Sex						
Females	4	△ 1 pp	3	▲ 2 pp	13	0 pp
Males	8	▲ 2 pp	8	▲ 5 pp	10	▲ 2 pp
Socioeconomic background						
Most disadvantaged students	7	▲ 2 pp	7	▲ 4 pp	14	△ 2 pp
Socioeconomically average students	5	▲ 2 pp	6	▲ 3 pp	11	△ 1 pp
Least disadvantaged students	5	△ 1 pp	4	▲ 4 pp	9	▲ 2 pp
Geographic location of schools						
Metropolitan	5	▲ 1 pp	5	▲ 3 pp	10	▲ 1 pp
Provincial	8	△ 2 pp	8	▲ 3 pp	16	▽ 1 pp
Remote	12	△ 2 pp	10	△ 8 pp	16	△ 8 pp
Indigenous background						
Indigenous	9	▲ 5 pp	7	▲ 8 pp	18	△ 1 pp
Non-Indigenous	6	▲ 1 pp	6	▲ 3 pp	11	▲ 1 pp
Immigrant background						
Australian-born	7	0 pp	6	▲ 4 pp	12	△ 1 pp
First-generation	4	▲ 2 pp	3	▲ 4 pp	10	▲ 2 pp
Foreign-born	4	▲ 3 pp	4	▲ 4 pp	8	△ 2 pp

Notes: Change over time represents the percentage point (pp) difference between PISA 2018 and 2015.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 7.12 Percentage of students who reported how often they were exposed to bullying at school in PISA 2015, and the difference between PISA 2015 and 2018, for different demographic groups

Bullying and reading literacy performance

Figure 7.13 shows that the low performers reported more exposure to bullying than the middle performers, who in turn reported more exposure than the high performers.

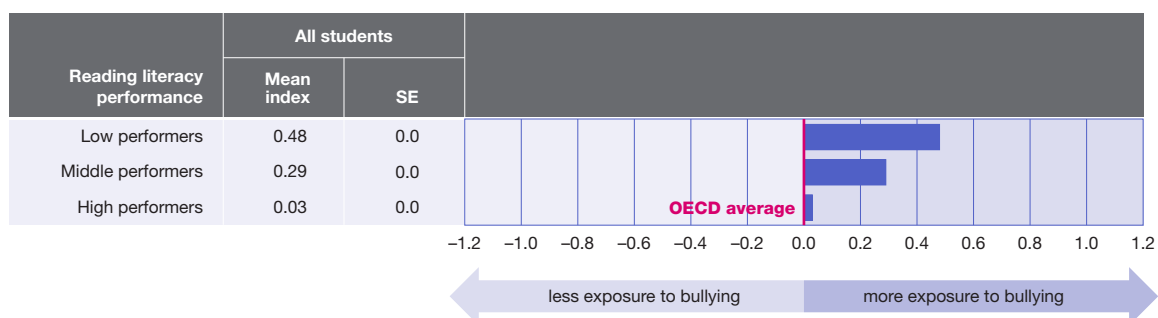


FIGURE 7.13 Exposure to bullying index, by reading literacy performance group for Australia

Figure 7.14 shows that the low performers reported the various behaviours occurring more frequently in school than the high performers. For example, there were 16 percentage points difference between the low and high performers on their reports about *other students spread nasty rumours about me*, and there were 12 percentage points difference between the low and high performers on their reports about *I was threatened by other students*.

Reading literacy performance	Percentage of students who reported the following occurred at least <i>a few times a month</i>					
	Other students left me out of things on purpose	Other students made fun of me	I was threatened by other students	Other students took away or destroyed things that belonged to me	I got hit or pushed around by other students	Other students spread nasty rumours about me
Low performers	17	24	15	13	14	19
Middle performers	13	20	7	5	7	10
High performers	7	16	3	1	4	3

FIGURE 7.14 Percentage of students who reported how often they were exposed to bullying at school, by reading literacy performance group

Figure 7.15 shows that being exposed to bullying from PISA 2015 to 2018 remained the same for the high performers, and the change in exposure to bullying for the low and middle performers increased for most of the behaviours over this 3-year period.

Reading literacy performance	Percentage of students who reported the following occurred at least a few times a month					
	Other students left me out of things on purpose		Other students made fun of me		I was threatened by other students	
	2015	Change over time	2015	Change over time	2015	Change over time
Low performers	17	0 pp	20	▲ 4 pp	12	▲ 3 pp
Middle performers	11	▲ 2 pp	13	▲ 7 pp	5	▲ 2 pp
High performers	6	△ 1 pp	13	△ 3 pp	2	△ 1 pp

Reading literacy performance	Other students took away or destroyed things that belonged to me		I got hit or pushed around by other students		Other students spread nasty rumours about me	
	2015	Change over time	2015	Change over time	2015	Change over time
	2015	Change over time	2015	Change over time	2015	Change over time
Low performers	9	▲ 4 pp	10	▲ 4 pp	17	△ 2 pp
Middle performers	4	△ 1 pp	4	▲ 3 pp	8	▲ 2 pp
High performers	1	0 pp	1	△ 2 pp	3	0 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2015.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 7.15 Percentage of students who reported how often they were exposed to bullying at school in PISA 2015, and the difference between PISA 2015 and 2018, by reading literacy performance

The relationship between bullying and reading literacy performance

Figure 7.16 shows the relationship between the quartiles of the exposure to bullying index and reading literacy performance for Australia. There was a small negative association between being exposed to bullying and reading literacy performance ($r = -0.12$). Students in the highest quartile scored 30 points on average lower in reading literacy performance than students in the lowest quartile. This score point difference is equal to almost one year of schooling.

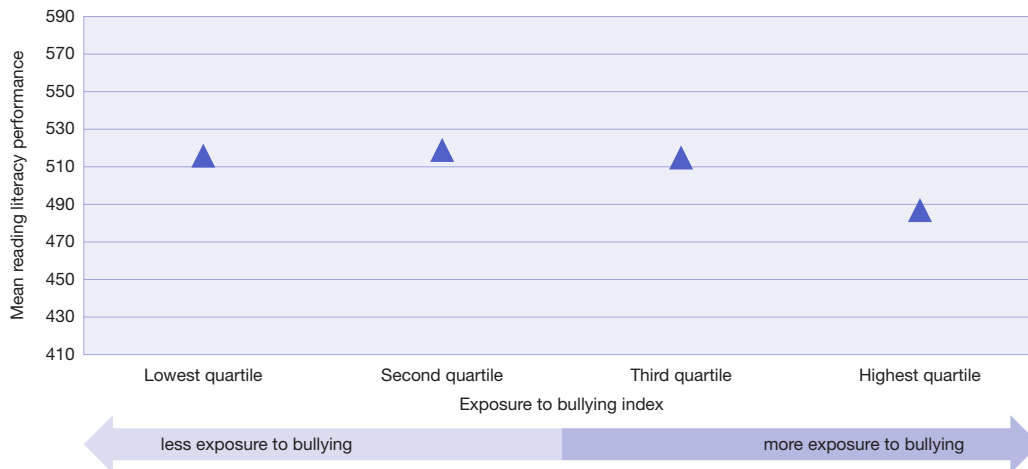
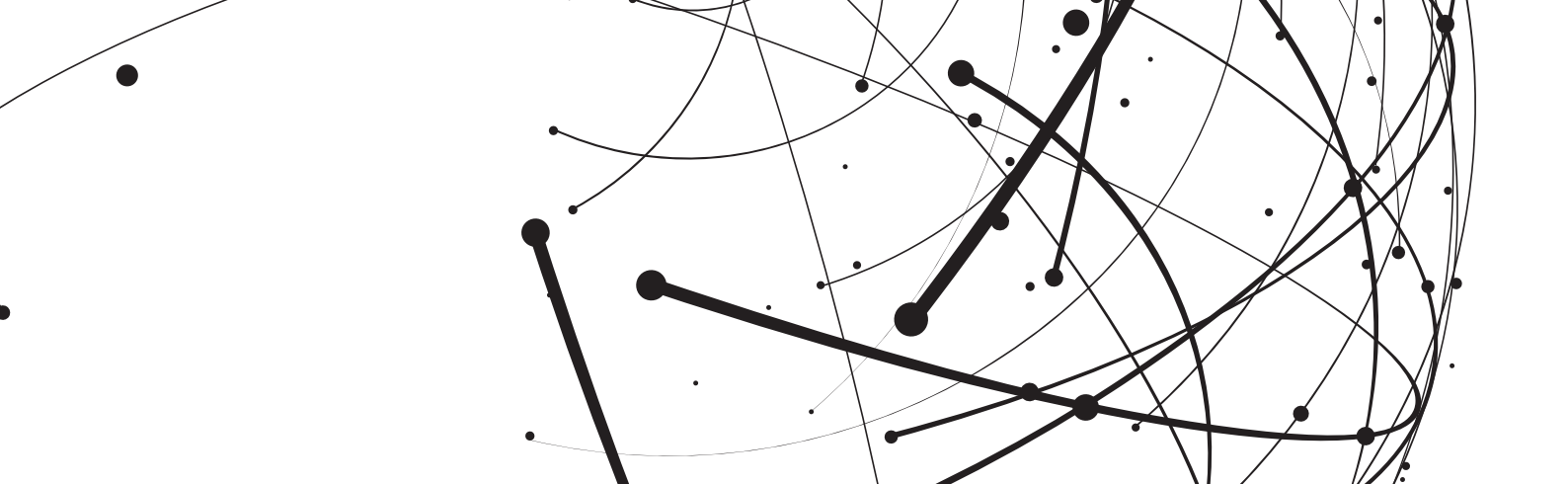


FIGURE 7.16 Relationship between exposure to bullying and reading literacy performance, for Australia



Absenteeism and lateness

Absenteeism, and to a lesser extent, lateness, impact entire school communities, from students whose learning opportunities is impeded, other students whose learning is disrupted, to teachers whose instruction is interrupted (Henry, 2007). Absenteeism is negatively associated with student performance, and with increasing rates of non-school completion (Wilms, 2003; London, Sanchez, Castrechini & Castrechini, 2016; Rumberger, 1995). Absenteeism can increase lack of engagement at school, and behavioural and disruptive difficulties (Baker, Sigmon & Nugent, 2001; Carroll, 2013).

Lateness has also been found to be negatively associated with student performance, and the achievement gap has been seen to widen for students in classrooms whose peers regularly arrive late to school (Gottfried, 2014).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in student absenteeism and lateness, and how they vary by student characteristics. It also explores the change in student absenteeism and lateness over a 6-year period, and the relationship between student absenteeism, lateness and reading literacy performance.

Key findings

- On average, around 8% of Australian students reported that *I skipped a whole day of school* and *I skipped some classes* at least three times during the last two weeks prior to the PISA assessment, while 16% of Australian students reported that *I arrived late for school* during the same period.
- Students' frequency of absenteeism and lateness increased between PISA 2012 and 2018. The largest increase was by 6 percentage points for students who reported *I arrived late for school*.
- Fewer than 10% of students across all jurisdictions reported that *I skipped a whole day of school* or *I skipped some classes* at least three times during the last two weeks, while between 15% of students in New South Wales and Queensland to 34% of students in the Northern Territory reported that *I arrived late for school* during the same period.

- ➔ A higher percentage of male students reported skipping school or arriving late for school than female students.
- ➔ A higher percentage of the most disadvantaged students reported being absent, skipping classes or arriving late for school than the least disadvantaged students.
- ➔ A higher percentage of students in provincial and remote schools reported skipping school or skipping classes than students in metropolitan schools.
- ➔ A higher percentage of Indigenous students reported being absent, skipping classes or arriving late for school than non-Indigenous students.
- ➔ Students who reported missing whole days of school at least three times in a two week period scored 47 points (almost one-and-a half years of schooling) lower in reading literacy performance than students who reported never missing whole days of school.
- ➔ Students who reported skipping classes at least three times in a two week period scored 76 points (around two and one-third years of schooling) lower in reading literacy performance than students who reported never skipping classes this often.
- ➔ Students who reported arriving late for school at least three times in a two week period scored 61 points (almost two years of schooling) lower in reading literacy performance than students who reported always arriving on time.

How is absenteeism and lateness measured in PISA?

Student absenteeism and lateness was measured by asking students how frequently the following things occurred during the last two weeks of school prior to the PISA assessment:

- ▶ *I skipped a whole school day.*
- ▶ *I skipped some classes.*
- ▶ *I arrived late for school.*

Students were asked to respond to each of the statements on a four-point scale (*never, one or two times, three or four times, five or more times*).

Absenteeism and lateness in an international context

Figure 8.1 presents the percentages of students who reported that they were absent, skipped class or arrived late for school three times or more during the last two weeks of school prior to the PISA assessment, for Australia,³¹ the comparison countries, and the OECD average.

- ▶ Eight per cent of Australian students reported that *I skipped a whole day of school* at least three times during the last two weeks. This percentage was similar to the proportion of students in New Zealand and Poland, and higher than for students in the 17 remaining comparison countries, and for students on average across the OECD countries.
- ▶ Six per cent of Australian students reported that *I skipped some classes* at least three times during the last two weeks. This percentage was similar to the proportion of students in Sweden, Germany, Norway and Denmark. The percentages were higher for students in Poland, Canada, Estonia, Ireland, New Zealand and the OECD average, and lower for students in the 10 remaining comparison countries, including Japan, Korea, B-S-J-Z (China) and Hong Kong (China).
- ▶ Sixteen per cent of Australian students reported that *I arrived late for school* at least three times during the last two weeks. This percentage was similar for students in Estonia, Germany and Denmark. The percentages were higher for students in Norway, New Zealand, Sweden, Canada,

³¹ For ease of reading, from this point onward 'three times or more during the last two weeks of school prior to the PISA assessment' will be referred to as 'at least three times during the last two weeks'.

Poland and the OECD average, and lower for students from the 11 comparison countries, including Japan, Korea, B-S-J-Z (China) and Macao (China).

Country	Percentage of students who reported the following <i>at least three times in the two weeks prior to the PISA assessment</i>		
	I skipped a whole day of school	I skipped some classes	I arrived late for school
B-S-J-Z (China)	0	1	6
Japan	0	1	2
Korea	1	1	5
Chinese Taipei	2	3	13
Macao (China)	2	3	6
Hong Kong (China)	2	2	7
Finland	3	4	13
Singapore	3	2	11
Sweden	3	5	21
United States	3	4	13
United Kingdom	4	4	13
Germany	4	6	17
Estonia	4	7	16
Norway	4	6	19
Denmark	5	7	18
Canada	5	10	22
Ireland	6	7	9
New Zealand	7	7	19
Australia	8	6	16
Poland	8	12	25
OECD average	6	8	18

Note: Countries with the lowest percentage of students who reported skipping a whole day of school are placed at the top of the figure and countries with the higher percentage of students are placed at the bottom. The OECD average has been included in the bottom of the figure for comparison.

FIGURE 8.1 Percentage of students who reported being absent or late for school, for Australia and comparison countries

In PISA 2012, students were asked the same questions about absenteeism and lateness as in PISA 2018. Figure 8.2 shows the percentages of Australian PISA 2012 students who reported that they were absent, skipped class or arrived late for school at least three times during the last two weeks, along with the change in the percentage of students between PISA 2012 and 2018, and the significance of this change.

A comparison between the two cycles reveals that students' absenteeism and lateness increased during this 6-year period. The largest increase, by 6 percentage points, was found in students' reports of them arriving late for school.

Percentage of students who reported the following <i>at least three times in the two weeks prior to the PISA assessment</i>					
I skipped a whole day of school		I skipped some classes		I arrived late for school	
2012	Change over time	2012	Change over time	2012	Change over time
6	▲ 2 pp	3	▲ 3 pp	10	▲ 6 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 8.2 Percentage of students who reported being absent or late for school in PISA 2012, and the difference between PISA 2012 and 2018, for Australia

Absenteeism and lateness in a national context

Figure 8.3 shows there were fewer than 1 in 10 students across all jurisdictions who reported *I skipped a whole day of school* or *I skipped some classes* at least three times during the last two weeks, while there were more than 1 in 10 students who reported *I arrived late for school* during the same period. The percentage of students who reported arriving late to school ranged from 15% of students in New South Wales and Queensland to 34% of students in the Northern Territory.

State/Territory	Percentage of students who reported the following at least three times in the two weeks prior to the PISA assessment		
	I skipped a whole day of school	I skipped some classes	I arrived late for school
ACT	6	4	18
NSW	7	5	15
VIC	7	6	17
QLD	8	5	15
SA	9	5	18
WA	9	6	17
TAS	9	6	16
NT	8	8	34

FIGURE 8.3 Percentage of students who reported being absent or late for school, by state and territory

Figure 8.4 shows the percentages of Australian PISA 2012 students who reported that they were absent, skipped class or arrived late for school at least three times during the last two weeks, along with the change in the percentage of students between PISA 2012 and 2018, and the significance of this change.

Over a 6-year period, there was a higher percentage of students across all jurisdictions who reported that *I arrived late for school*. This increase ranged from 4 percentage points in South Australia to 15 percentage points in the Northern Territory.

State/Territory	Percentage of students who reported the following at least three times in the two weeks prior to the PISA assessment					
	I skipped a whole day of school		I skipped some classes		I arrived late for school	
	2012	Change over time	2012	Change over time	2012	Change over time
ACT	4	△ 2 pp	4	△ 1 pp	12	▲ 6 pp
NSW	6	△ 1 pp	5	▲ 2 pp	10	▲ 5 pp
VIC	5	▲ 2 pp	5	▲ 3 pp	10	▲ 7 pp
QLD	8	0 pp	5	▲ 2 pp	10	▲ 5 pp
SA	7	△ 2 pp	5	▲ 2 pp	14	▲ 4 pp
WA	5	▲ 4 pp	4	▲ 4 pp	9	▲ 8 pp
TAS	8	△ 1 pp	5	▲ 3 pp	11	▲ 5 pp
NT	11	▽ 3 pp	8	0 pp	19	▲ 15 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 8.4 Percentage of students who reported being absent or late for school in PISA 2012, and the difference between PISA 2012 and 2018, by state and territory

Figure 8.5 shows that there were more students in government schools who reported being absent, skipping classes or arriving late for school than students in Catholic or independent schools. For instance, there was a 5 percentage point difference between students in government schools and students in Catholic or independent schools who reported that *I arrived late for school*.

School sector	Percentage of students who reported the following at least three times in the two weeks prior to the PISA assessment		
	I skipped a whole day of school	I skipped some classes	I arrived late for school
Government	9	7	18
Catholic	6	4	13
Independent	5	4	13

FIGURE 8.5 Percentage of students who reported being absent or late for school, by school sector

Figure 8.6 shows that between PISA 2012 and 2018 there were more students across all school sectors who reported *I skipped some classes* (by around 2 percentage points) and *I arrived late for school* (by around 5 percentage points) at least three times during the last two weeks.

School sector	Percentage of students who reported the following at least three times in the two weeks prior to the PISA assessment					
	I skipped a whole day of school		I skipped some classes		I arrived late for school	
	2012	Change over time	2012	Change over time	2012	Change over time
Government	7	▲ 2 pp	4	▲ 3 pp	12	▲ 6 pp
Catholic	5	△ 1 pp	3	▲ 2 pp	8	▲ 5 pp
Independent	4	△ 1 pp	2	▲ 2 pp	8	▲ 5 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 8.6 Percentage of students who reported being absent or late for school in PISA 2012, and the difference between PISA 2012 and 2018, by school sector

Absenteeism and lateness for different demographic groups in a national context

Figure 8.7 presents the percentages of students who reported that they were absent, skipped class or arrived late for school at least three times during the last two weeks for the different demographic groups.

- ▶ A higher percentage of male students reported that *I skipped a whole day of school* and *I arrived late for school* than female students.
- ▶ A higher percentage of the most disadvantaged students reported that *I skipped a whole day of school*, *I skipped some classes*, and *I arrived late for school* than the least disadvantaged students.
- ▶ A higher percentage of students in provincial and remote schools reported that *I skipped a whole day of school* and *I skipped some classes* than students in metropolitan schools.
- ▶ A higher percentage of Indigenous students reported that *I skipped a whole day of school*, *I skipped some classes*, and *I arrived late for school* than non-Indigenous students.
- ▶ A higher percentage of foreign-born students reported that *I skipped some classes* than Australian-born students, and a higher percentage of first-generation and foreign-born students reported that *I arrived late for school* than Australian-born students.

Demographic group	Percentage of students who reported the following <i>at least three times in the two weeks prior to the PISA assessment</i>		
	I skipped a whole day of school	I skipped some classes	I arrived late for school
Sex			
Females	7	5	15
Males	8	6	17
Socioeconomic background			
Most disadvantaged students	11	9	21
Socioeconomically average students	7	6	15
Least disadvantaged students	5	4	12
Geographic location of schools			
Metropolitan	7	5	16
Provincial	10	7	16
Remote	16	12	24
Indigenous background			
Indigenous	14	11	23
Non-Indigenous	7	5	16
Immigrant background			
Australian-born	7	5	15
First-generation	7	6	17
Foreign-born	8	7	18

FIGURE 8.7 Percentage of students who reported being absent or late for school, for different demographic groups

Figure 8.8 presents the percentages of students in PISA 2012 who reported that they were absent, skipped class or arrived late for school at least three times during the last two weeks, along with the change in the percentage of students between PISA 2012 and 2018, and the significance of this change for the different demographic groups. The data show that students' reports of being absent, skipping class or arriving late increased between PISA 2012 and 2018. The percentage of students who reported:

- ▶ *I skipped some classes* increased for all demographic groups, except for the least disadvantaged students and students in remote schools. The largest increase, with 5 percentage points, was found for the most disadvantaged students.
- ▶ *I arrived late for school* increased for all demographic groups, except for students in remote schools and Indigenous students. The largest increase, with 9 percentage points, was found for the most disadvantaged students.

Demographic group	Percentage of students who reported the following at least three times in the two weeks prior to the PISA assessment					
	I skipped a whole day of school		I skipped some classes		I arrived late for school	
	2012	Change over time	2012	Change over time	2012	Change over time
Sex						
Females	7	0 pp	5	▲ 2 pp	10	▲ 5 pp
Males	6	▲ 5 pp	5	▲ 3 pp	10	▲ 7 pp
Socioeconomic background						
Most disadvantaged students	9	▲ 2 pp	4	▲ 5 pp	12	▲ 9 pp
Socioeconomically average students	6	▲ 1 pp	5	▲ 3 pp	10	▲ 5 pp
Least disadvantaged students	4	△ 1 pp	5	0 pp	7	▲ 5 pp
Geographic location of schools						
Metropolitan	6	▲ 1 pp	5	▲ 2 pp	11	▲ 5 pp
Provincial	8	▲ 2 pp	5	▲ 4 pp	9	▲ 7 pp
Remote	13	△ 3 pp	6	△ 6 pp	18	△ 6 pp
Indigenous background						
Indigenous	14	0 pp	7	▲ 4 pp	19	△ 4 pp
Non-Indigenous	6	▲ 1 pp	5	▲ 2 pp	10	▲ 6 pp
Immigrant background						
Australian-born	7	0 pp	5	▲ 2 pp	10	▲ 5 pp
First-generation	5	▲ 2 pp	5	▲ 3 pp	10	▲ 7 pp
Foreign-born	5	▲ 3 pp	5	▲ 4 pp	11	▲ 7 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 8.8 Percentage of students who reported being absent or late for school in PISA 2012, and the difference between PISA 2012 and 2018, for different demographic groups

Absenteeism and lateness and reading literacy performance

Figure 8.9 shows that there were more low performers who reported being absent, skipping classes or arriving late for school than the middle or high performers. There was a 21 percentage point difference between the low and high performers on their reports for *I arrived late for school*, and a 10 percentage point difference between the low and high performers on their reports for *I skipped a whole day of school* and *I skipped some classes*.

Reading literacy performance	Percentage of students who reported the following at least three times in the two weeks prior to the PISA assessment		
	I skipped a whole day of school	I skipped some classes	I arrived late for school
Low performers	13	12	26
Middle performers	5	5	12
High performers	3	2	5

FIGURE 8.9 Percentage of students who reported being absent or late for school, by reading literacy performance group

Figure 8.10 shows that the percentage of low performers who were absent, skipped classes or arrived late between PISA 2012 and 2018 increased. This ranged from a 2 percentage point increase in their reports that *I skipped a whole day of school* to a 10 percentage point increase in their reports that *I arrived late for school*.

Reading literacy performance	Percentage of students who reported the following at least three times in the two weeks prior to the PISA assessment					
	I skipped a whole day of school		I skipped some classes		I arrived late for school	
	2012	Change over time	2012	Change over time	2012	Change over time
Low performers	11	▲ 2 pp	5	▲ 7 pp	16	▲ 10 pp
Middle performers	3	0 pp	1	0 pp	9	▲ 3 pp
High performers	1	△ 1 pp	1	0 pp	6	▽ 1 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 8.10 Percentage of students who reported being absent or late for school in PISA 2012, and the difference between PISA 2012 and 2018, by reading literacy performance group

The relationship between absenteeism and lateness and reading literacy performance

Figure 8.11 shows the relationship between the frequency that students were absent, skipped classes or arrived late and reading literacy performance for Australia.

There was a small association between *I skipped a whole day of school* and reading literacy performance ($r = -0.19$), *I skipped some classes* and reading literacy performance ($r = -0.21$), and *I arrived late for school* ($r = -0.24$).

Students who reported never being absent, skipping classes or arriving late for school performed higher in reading literacy performance than students who were absent, skipped classes or arrived late for school.

- ▶ Students who reported missing whole days of school at least three times in a two week period scored 47 points (almost one-and-a-half years of schooling) lower in reading literacy performance than students who never missed whole days of school.
- ▶ Students who reported skipping classes at least three times in a two week period scored 76 points (around two and one-third years of schooling) lower in reading literacy performance than students who never skipped classes.
- ▶ Students who reported arriving late for school at least three times in a two week period scored 61 points (almost two years of schooling) lower in reading literacy performance than students who always arrived at school on time.

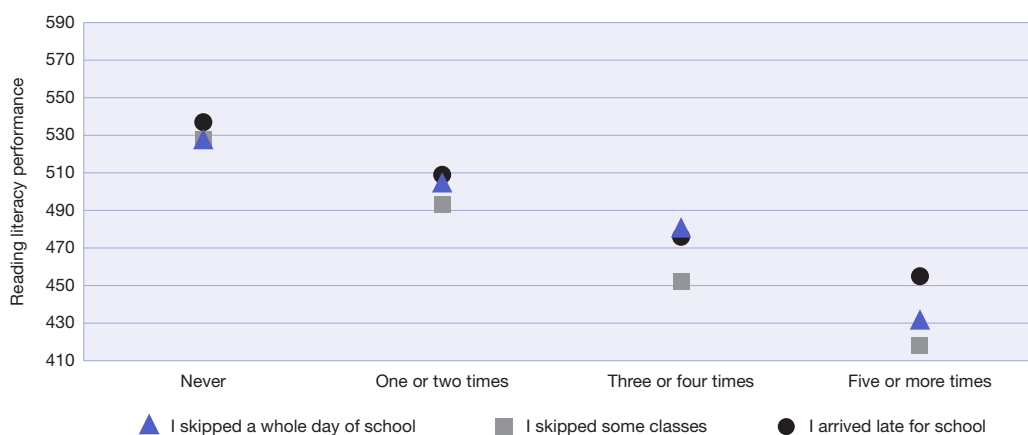


FIGURE 8.11 Relationship between students who reported being absent or late for school and reading literacy performance, for Australia

Disciplinary climate in English classes

The disciplinary climate is an important factor that affects student learning. A supportive and positive classroom environment provides students with greater learning opportunities (Dorman, Aldridge, & Fraser, 2006). A positive disciplinary climate is associated with higher performance, and with higher satisfaction and motivation (Brown et al., 2010; Ma & Wilms, 2004; Ning et al., 2015; OECD, 2019; Reyes et al., 2012).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in the disciplinary climate during English classes, and how they vary by student characteristics. It also explores the change in disciplinary climate over a 9-year period, and the relationship between disciplinary climate and reading literacy performance.

Key findings

- On average, Australian students reported similar levels of disciplinary climate in their English classes to students in New Zealand, and a less favourable disciplinary climate than the OECD average.
- On average, approximately one-fifth of Australian students reported that *students cannot work well*, one-quarter reported that *students don't start working for a long time after the lesson begins*, approximately one-third reported that *the teacher has to wait a long time for students to quieten down* and that *students don't listen to what the teacher says*.
- On average, almost one-half of Australian students reported that *there is noise and disorder* in most English classes.
- Student reports of disciplinary climate deteriorated between PISA 2009 and 2018. For instance, there was a 5 percentage point increase for Australian students who reported that *students don't listen to what the teacher says* in most English classes.
- Students in the Australian Capital Territory reported a more favourable disciplinary climate than students in Victoria, South Australia, the Northern Territory and Tasmania, and similar levels of disciplinary climate with students in Queensland, Western Australia and New South Wales.

- ➔ Students in Catholic and independent schools reported similar levels of disciplinary climate, and a more favourable disciplinary climate than students in government schools.
- ➔ Female students reported a more favourable disciplinary climate than male students.
- ➔ The least disadvantaged students reported a more favourable disciplinary climate than the most disadvantaged students.
- ➔ Students in metropolitan schools reported a more favourable disciplinary climate than students in provincial schools, who in turn reported a more favourable disciplinary climate to students in remote schools.
- ➔ Non-Indigenous students reported a more favourable disciplinary climate than Indigenous students.
- ➔ Foreign-born students reported a more favourable disciplinary climate than first-generation students, who in turn, reported a more favourable disciplinary climate than Australian-born students.
- ➔ Students in the highest quartile of the disciplinary climate index scored on average 55 points higher (around one and two-thirds of a year of schooling) in reading literacy performance than students in the lowest quartile.

How is disciplinary climate measured in PISA?

Disciplinary climate was measured by asking students how frequently the following behaviours occurred in their English classes:

- ▶ *Students don't listen to what the teacher says.*
- ▶ *There is noise and disorder.*
- ▶ *The teacher has to wait a long time for students to quieten down.*
- ▶ *Students cannot work well.*
- ▶ *Students don't start working for a long time after the lesson begins.*

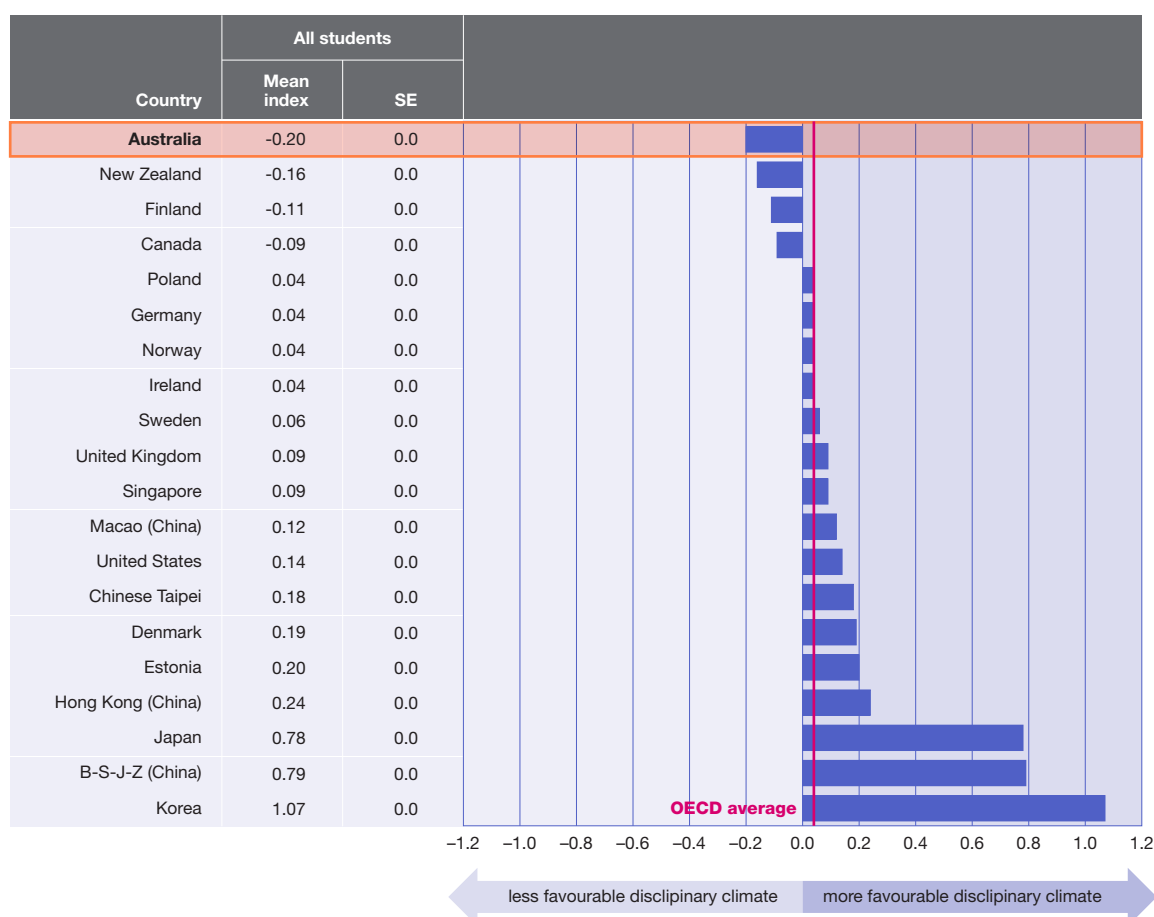
Students were asked to respond to each of the statements on a four-point scale (*every class, most classes, some classes, never or hardly ever*).

An index of disciplinary climate in English classes was constructed using the responses to these statements. The index, was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values on the index indicate a favourable disciplinary climate in English classes, with higher levels on the index reflecting a more positive disciplinary climate. Negative values on the index indicate a less favourable disciplinary climate.

Disciplinary climate in an international context

Figure 9.1 presents the mean index scores for Australia, the comparison countries, and the OECD average on the disciplinary climate index. Students in all except four countries (Australia, New Zealand, Finland and Canada) reported a favourable disciplinary climate in their English classes.

Students in Korea reported the most favourable climate, attaining the highest mean index of all countries. Students in Australia and New Zealand reported similar levels of disciplinary climate, which were less favourable than students from the other comparison countries and the OECD average. The mean index score of -0.20 for Australia was lower than the OECD average of 0.04.



Note: Countries with the lowest mean index score on the disciplinary climate index are placed at the top of the figure and countries with the highest mean index score on the index are placed at the bottom.

FIGURE 9.1 Disciplinary climate index, for Australia and comparison countries

Figure 9.2 shows the percentage of students who reported that various behaviours related to disciplinary climate occurred in most or every English class, for Australia and the comparison countries.

Australian students reported the behaviours occurring more often in most English classes than students across all OECD countries. One-third of Australian students reported *the teacher has to wait a long time for students to quieten down* and one-quarter reported that *students don't start working for a long time after the class begins*, and one-fifth reported that *students cannot work well*.

- ▶ Thirty-seven per cent of Australian students reported that *students don't listen to what the teacher says* in most or every English class.³² This percentage was similar for students in Poland, Germany and New Zealand, and higher than for students from the 16 remaining comparison countries and the OECD average.
- ▶ Forty-three per cent of Australian students reported that *there is noise and disorder* in most classes. This percentage was similar for students in New Zealand, and higher than for students from the 18 remaining comparison countries and the OECD average.
- ▶ Thirty-two per cent of Australian students reported that *the teacher has to wait a long time for students to quieten down* in most classes. This percentage was higher than for students in all comparison countries and the OECD average.

32 For ease of reading, from this point onward 'most or every English class' will be referred to as 'most classes'.

- ▶ Twenty-one per cent of Australian students reported that *students cannot work well* in most classes. This percentage was similar for students in Germany and Poland, and higher than for students in the 17 remaining comparison countries and the OECD average.
- ▶ Twenty-six per cent of Australian students reported that *students don't start working for a long time after the lesson begins* in most classes. This percentage was similar for students in New Zealand and Finland. The percentage was higher for students in Canada and lower for students in the 16 remaining comparison countries and the OECD average.

Country	Percentage of students who reported <i>most classes or every class</i>				
	Students don't listen to what the teacher says	There is noise and disorder	The teacher has to wait a long time for students to quieten down	Students cannot work well	Students don't start working for a long time after the class begins
Australia	37	43	32	21	26
New Zealand	35	42	30	20	27
Finland	30	36	27	16	25
Canada	31	39	27	19	29
Poland	37	29	26	20	20
Germany	36	29	29	22	23
Norway	22	27	22	18	23
Ireland	33	35	26	15	21
Sweden	24	27	26	17	22
United Kingdom	30	34	25	15	19
Singapore	27	33	26	14	18
Macao (China)	23	16	14	14	20
United States	26	28	22	15	20
Chinese Taipei	23	20	19	18	21
Denmark	22	26	14	13	15
Estonia	30	24	20	17	16
Hong Kong (China)	19	19	16	17	21
Japan	9	10	9	14	8
B-S-J-Z (China)	11	9	8	9	9
Korea	7	8	8	5	6
OECD average	29	31	26	19	24

Note: Countries are listed from the lowest to highest mean score on the disciplinary climate index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 9.2 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes, for Australia and comparison countries

In PISA 2009, students were asked the same questions about their disciplinary climate in English classes.³³ Figure 9.3 shows the percentages of Australian PISA 2009 students who reported each behaviour occurring in most English classes, along with the change in the percentage of students between PISA 2009 and 2018, and the significance of this change.

A comparison between the two cycles reveals that students' perceptions of the disciplinary climate generally deteriorated during this 9-year period. For example, on average, the percentage of students who reported that *students don't listen to what the teacher says* in most English classes increased by 5 percentage points, and the percentage of students who reported *there is noise and disorder* increased by 4 percentage points between PISA 2009 and 2018.

33 The wording of the categories changed slightly across both cycles.

Percentage of students who reported <i>most classes or every class</i>									
Students don't listen to what the teacher says		There is noise and disorder		The teacher has to wait a long time for students to quieten down		Students cannot work well		Students don't start working for a long time after the class begins	
2009	Change over time	2009	Change over time	2009	Change over time	2009	Change over time	2009	Change over time
32	▲ 5 pp	39	▲ 4 pp	29	▲ 3 pp	18	▲ 3 pp	24	▲ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2009.

▲▼ Change over time significant.

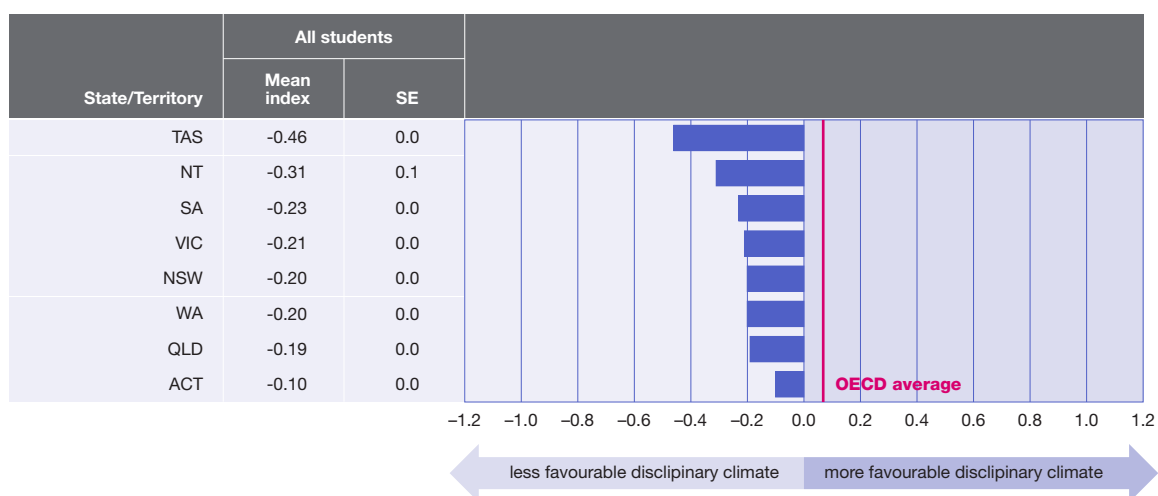
△▽ Change over time not significant.

FIGURE 9.3 Percentage of Australian students who reported how often behaviours related to disciplinary climate occurred in their English classes in PISA 2009, and the difference between PISA 2009 and 2018

Disciplinary climate in a national context

Figure 9.4 shows the mean index scores for students in each of the Australian states and territories, and the OECD average on the disciplinary climate index. Students in all jurisdictions reported a less favourable disciplinary climate in their English classes than students from across the OECD. The mean index scores on the disciplinary climate ranged from -0.46 in Tasmania to -0.10 in the Australian Capital Territory.

Students in the Australian Capital Territory reported a more favourable disciplinary climate than students in Victoria, South Australia, the Northern Territory and Tasmania, and similar levels of disciplinary climate to students in Queensland, Western Australia and New South Wales. Students in Tasmania reported a similar disciplinary climate to students in the Northern Territory and a less favourable disciplinary climate than students in the other jurisdictions.



Note: Jurisdictions with the lowest mean score on the disciplinary climate are placed at the top of the figure and jurisdictions with the highest mean index score on the index are placed at the bottom.

FIGURE 9.4 Disciplinary climate index, by state and territory

Figure 9.5 presents the percentages of students who reported each of the disciplinary climate behaviours occurring in most classes, by jurisdiction. On average, half of the students in the Northern Territory and Tasmania, and approximately 40% of students in New South Wales, Victoria, Queensland, South Australia and Western Australia reported that *there is noise and disorder* in most classes.

The disciplinary climate behaviour that students reported as occurring the least frequently in most classes was *students cannot work well*. Approximately one-fifth of students in New South Wales, Victoria, Queensland, South Australia and Western Australia, and one-quarter of students in Tasmania and the Northern Territory reported that *students cannot work well* in most English classes. Students in the Australian Capital Territory reported less frequently than in all other jurisdictions that *students cannot work well*, with 16% of students reporting this behaviour occurred in most classes.

State/Territory	Percentage of students who reported <i>most classes or every class</i>				
	Students don't listen to what the teacher says	There is noise and disorder	The teacher has to wait a long time for students to quieten down	Students cannot work well	Students don't start working for a long time after the class begins
TAS	48	53	42	26	33
NT	36	51	36	25	28
SA	37	44	29	21	29
VIC	37	43	32	21	26
NSW	36	43	34	22	26
WA	36	42	31	22	28
QLD	38	42	33	21	24
ACT	29	38	25	16	20

Note: Jurisdictions are listed from the lowest to highest mean score on the disciplinary climate index.

FIGURE 9.5 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes, by state and territory

Figure 9.6 shows the percentages of PISA 2009 students who reported each behaviour occurring in most classes, along with the change in the percentage of students between PISA 2009 and 2018, by jurisdiction.

Tasmania and Queensland were the only two jurisdictions that showed the percentage of students reporting on each of the individual items increased over a 9-year period. For the Tasmanian students, the increase between 2009 and 2018 ranged from 6 percentage points for *students cannot work well* to 11 percentage points for *students don't listen to what the teacher says*. For the Queensland students, the increase ranged from 5 percentage points for *students don't start working for a long time after the class begins* to 9 percentage points for *students don't listen to what the teacher says* and *the teacher has to wait a long time for students to quieten down*.

In Victoria and the Northern Territory, there were no changes in students' reports on the various behaviours between 2009 and 2018.

The Australian Capital Territory was the only jurisdiction that showed disciplinary climate improved between 2009 and 2018. For instance, the percentage of students who reported that *the teacher has to wait a long time for students to quieten down* decreased by 8 percentage points and the percentage of students who reported *students don't listen to what the teacher says* or *students don't start working for a long time after the class begins* decreased by 6 percentage points.

State/Territory	Percentage of students who reported <i>most classes or every class</i>					
	Students don't listen to what the teacher says		There is noise and disorder		The teacher has to wait a long time for students to quieten down	
	2009	Change over time	2009	Change over time	2009	Change over time
TAS	37	▲ 11 pp	44	▲ 9 pp	34	▲ 8 pp
NT	35	△ 1 pp	43	△ 8 pp	31	△ 5 pp
SA	31	▲ 6 pp	38	▲ 6 pp	29	0 pp
VIC	37	0 pp	44	▽ 1 pp	34	▽ 2 pp
NSW	32	▲ 4 pp	40	△ 3 pp	30	△ 4 pp
WA	28	▲ 10 pp	35	▲ 7 pp	24	▲ 9 pp
QLD	29	▲ 9 pp	35	▲ 7 pp	24	▲ 9 pp
ACT	35	▼ 6 pp	40	▽ 2 pp	33	▼ 8 pp

State/Territory	Students cannot work well		Students don't start working for a long time after the class begins	
	2009	Change over time	2009	Change over time
TAS	20	▲ 6 pp	26	▲ 7 pp
NT	19	△ 6 pp	24	△ 4 pp
SA	16	▲ 5 pp	23	▲ 6 pp
VIC	20	△ 1 pp	27	▽ 1 pp
NSW	19	▲ 3 pp	24	△ 2 pp
WA	14	▲ 7 pp	23	△ 1 pp
QLD	15	▲ 6 pp	19	▲ 5 pp
ACT	19	▼ 3 pp	26	▼ 6 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2009.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 9.6 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes in PISA 2009, and the difference between PISA 2009 and 2018, by state and territory

Figure 9.7 shows the mean index scores on the disciplinary climate index for each school sector. Students in Catholic and independent schools reported similar levels of disciplinary climate, and a more favourable disciplinary climate than students in government schools.

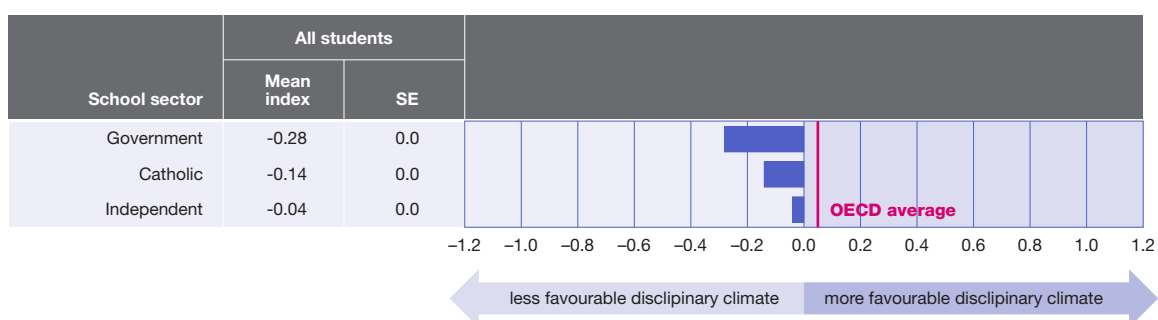


FIGURE 9.7 Disciplinary climate index, by school sector

Figure 9.8 shows that students in government schools reported the various behaviours occurring more frequently in most classes than students in Catholic or independent schools, while students in Catholic and independent schools reported no differences in the frequency of these behaviours occurring in most classes.

Almost half the students in government schools and approximately 40% of students in Catholic and independent schools reported *there is noise and disorder* in most classes. Approximately 40% of students in government schools, 35% of students in Catholic and 31% of students in independent schools reported *students don't listen to what the teacher says* in most classes.

School sector	Percentage of students who reported <i>most classes or every class</i>				
	Students don't listen to what the teacher says	There is noise and disorder	The teacher has to wait a long time for students to quieten down	Students cannot work well	Students don't start working for a long time after the class begins
Government	39	46	35	24	29
Catholic	35	40	29	18	23
Independent	31	38	27	16	21

FIGURE 9.8 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes, by school sector

Figure 9.9 shows that the disciplinary climate generally deteriorated between PISA 2009 and 2018 for students in independent schools. There was an increase in the percentage of students across all items related to disciplinary climate. This ranged from a 6 percentage point increase for *students cannot work well* to a 10 percentage point increase for *there is noise and disorder*.

In government and Catholic schools, the change in disciplinary climate essentially remained unchanged between PISA 2009 and 2018, with the exception in government schools, where there was a 3 percentage increase for the items *students don't listen to what the teacher says* and *students cannot work well*, and in Catholic schools, where there was a 3 percentage point increase for *students don't start working for a long time after the class begins*.

School sector	Percentage of students who reported <i>most classes or every class</i>					
	Students don't listen to what the teacher says		There is noise and disorder		The teacher has to wait a long time for students to quieten down	
	2009	Change over time	2009	Change over time	2009	Change over time
Government	36	▲ 3 pp	44	△ 2 pp	33	△ 2 pp
Catholic	31	△ 4 pp	37	△ 3 pp	27	△ 2 pp
Independent	23	▲ 8 pp	28	▲ 10 pp	19	▲ 8 pp

School sector	Students cannot work well		Students don't start working for a long time after the class begins	
	2009	Change over time	2009	Change over time
	2009	Change over time	2009	Change over time
Government	21	▲ 3 pp	28	△ 1 pp
Catholic	16	△ 2 pp	20	▲ 3 pp
Independent	10	▲ 6 pp	14	▲ 7 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2009.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 9.9 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes in PISA 2009, and the difference between PISA 2009 and 2018, by school sector

Disciplinary climate for different demographic groups in a national context

Figure 9.10 shows the mean index scores on the disciplinary climate index for students from different demographic groups.

- ▶ Female students reported a more favourable disciplinary climate than male students.
- ▶ The least disadvantaged students reported a more favourable disciplinary climate than the most disadvantaged students.
- ▶ Students in metropolitan schools reported a more favourable disciplinary climate than students in provincial schools, who in turn reported a more favourable disciplinary climate to students in remote schools.

- ▶ Non-Indigenous students reported a more favourable disciplinary climate than Indigenous students.
- ▶ Foreign-born students reported a more favourable disciplinary climate than first-generation students, who in turn, reported a more favourable disciplinary climate than Australian-born students.



FIGURE 9.10 Disciplinary climate index, for different demographic groups

Figure 9.11 presents the percentages of students who reported each behaviour occurring in most classes for the different demographic groups. Males reported all of the various behaviours occurring more frequently in most classes than females, except when reporting on *the teacher has to wait a long time for students to quieten down*, where females and males reported similarly.

The most disadvantaged students reported these behaviours occurring more frequently than students in the least disadvantaged students. For example, half of the most disadvantaged students reported *there is noise and disorder* in most classes, while almost 40% of least disadvantaged students reported this.

Students in metropolitan schools and non-Indigenous students reported the various behaviours occurring less often than their counterparts, while Australian-born students reported these behaviours occurring more often than for first-generation or foreign-born students, except when reporting about *students don't start working for a long time after the class begins*, where no differences were found.

Demographic group	Percentage of students who reported <i>most classes or every class</i>				
	Students don't listen to what the teacher says	There is noise and disorder	The teacher has to wait a long time for students to quieten down	Students cannot work well	Students don't start working for a long time after the class begins
Sex					
Females	35	41	31	19	25
Males	39	45	33	24	27
Socioeconomic background					
Most disadvantaged students	42	49	39	26	30
Socioeconomically average students	37	43	32	21	26
Least disadvantaged students	32	37	27	17	22
Geographic location of schools					
Metropolitan	35	41	31	20	25
Provincial	42	49	36	25	28
Remote	45	51	44	33	37
Indigenous background					
Indigenous	43	50	42	27	31
Non-Indigenous	37	43	32	21	26
Immigrant background					
Australian-born	40	46	34	22	27
First-generation	34	41	31	21	25
Foreign-born	30	34	29	19	25

FIGURE 9.11 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes, for different demographic groups

Figure 9.12 presents the percentages of students in PISA 2009 who reported each behaviour occurring in most classes for the different demographic groups, along with the changes over a 9-year period, and the significance of these changes for the different demographic groups.

Between PISA 2009 and 2018, there was an increase in the percentage of students who reported behaviours occurring more often in most classes across all items for females, for socioeconomically average students and least disadvantaged students, students in metropolitan schools, and first-generation students.

Over the 9-year period, reports on disciplinary climate for the most disadvantaged students, Indigenous students and students from remote schools have essentially remained unchanged, with the exception of a 5 percentage point increase for the most disadvantaged students and a 6 percentage point increase for Indigenous students on the occurrence of *students don't listen to what the teacher says* in most classes.

Demographic group	Percentage of students who reported <i>most classes or every class</i>					
	Students don't listen to what the teacher says		There is noise and disorder		The teacher has to wait a long time for students to quieten down	
	2009	Change over time	2009	Change over time	2009	Change over time
Sex						
Females	29	▲ 6 pp	36	▲ 5 pp	27	▲ 4 pp
Males	36	▲ 3 pp	43	▲ 2 pp	31	△ 2 pp
Socioeconomic background						
Most disadvantaged students	37	▲ 5 pp	46	△ 3 pp	37	△ 2 pp
Socioeconomically average students	33	▲ 4 pp	39	▲ 4 pp	28	▲ 4 pp
Least disadvantaged students	26	▲ 6 pp	32	▲ 5 pp	23	▲ 4 pp
Geographic location of schools						
Metropolitan	30	▲ 5 pp	37	▲ 4 pp	27	▲ 4 pp
Provincial	38	▲ 4 pp	45	△ 4 pp	34	△ 2 pp
Remote	39	△ 6 pp	48	△ 3 pp	37	△ 7 pp
Indigenous background						
Indigenous	37	▲ 6 pp	48	△ 2 pp	40	△ 2 pp
Non-Indigenous	32	▲ 5 pp	39	▲ 4 pp	29	△ 3 pp
Immigrant background						
Australian-born	35	▲ 5 pp	42	▲ 4 pp	31	▲ 3 pp
First-generation	30	▲ 4 pp	37	▲ 4 pp	26	▲ 5 pp
Foreign-born	25	▲ 5 pp	31	△ 3 pp	26	▲ 3 pp

Demographic group	Students cannot work well		Students don't start working for a long time after the class begins	
	2009	Change over time	2009	Change over time
Sex				
Females	15	▲ 4 pp	22	▲ 3 pp
Males	21	▲ 3 pp	25	△ 2 pp
Socioeconomic background				
Most disadvantaged students	23	△ 3 pp	30	0 pp
Socioeconomically average students	18	▲ 3 pp	23	▲ 3 pp
Least disadvantaged students	13	▲ 4 pp	18	▲ 4 pp
Geographic location of schools				
Metropolitan	17	▲ 3 pp	22	▲ 3 pp
Provincial	21	▲ 4 pp	27	△ 1 pp
Remote	26	△ 7 pp	32	△ 5 pp
Indigenous background				
Indigenous	24	△ 3 pp	31	0 pp
Non-Indigenous	18	▲ 3 pp	23	▲ 3 pp
Immigrant background				
Australian-born	19	▲ 3 pp	25	△ 2 pp
First-generation	16	▲ 5 pp	22	▲ 3 pp
Foreign-born	15	▲ 4 pp	19	▲ 6 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2009.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 9.12 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes in PISA 2009, and the difference between PISA 2009 and 2018, for different demographic groups

Disciplinary climate and reading literacy performance

Figure 9.13 shows that the high performers reported a more favourable disciplinary climate than the middle performers, who in turn reported a more favourable disciplinary climate than the low performers.

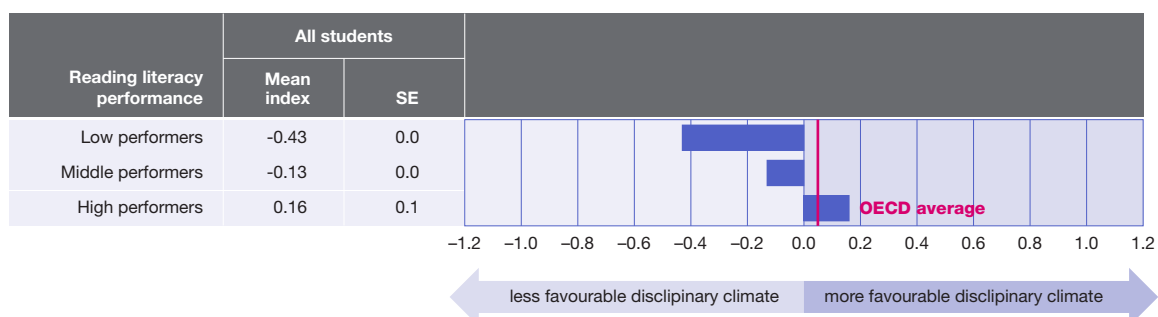


FIGURE 9.13 Disciplinary climate index, by reading literacy performance group for Australia

Figure 9.14 shows that the low performers reported the various behaviours occurring more frequently in most classes than the high performers. For example, 47% of low performers reported *there is noise and disorder* in most classes compared with 30% of high performers, and 29% of low performers reported *students cannot work well* in most classes compared with 13% of high performers.

Reading literacy performance	Percentage of students who reported <i>most classes or every class</i>				
	Students don't listen to what the teacher says	There is noise and disorder	The teacher has to wait a long time for students to quieten down	Students cannot work well	Students don't start working for a long time after the class begins
Low performers	43	47	41	29	33
Middle performers	35	42	30	19	24
High performers	25	30	20	13	15

FIGURE 9.14 Percentage of Australian students who reported how often behaviours related to disciplinary climate occurred in their English classes, by reading literacy performance group

Figure 9.15 shows that the disciplinary climate from 2009 to 2018 remained the same for the low performers, and the change in disciplinary climate for high performers has remained constant except for the behaviour related to *students cannot work well*, where there has been an increase of 6 percentage points over this 9-year period. The disciplinary climate for middle performers has generally deteriorated.

Reading literacy performance	Percentage of students who reported <i>most classes or every class</i>					
	Students don't listen to what the teacher says		There is noise and disorder		The teacher has to wait a long time for students to quieten down	
	2009	Change over time	2009	Change over time	2009	Change over time
Low performers	43	△ 0 pp	48	▽ 1 pp	41	△ 0 pp
Middle performers	30	▲ 5 pp	38	▲ 4 pp	27	▲ 3 pp
High performers	20	△ 5 pp	25	△ 5 pp	15	△ 5 pp

Reading literacy performance	Students cannot work well		Students don't start working for a long time after the class begins	
	2009	Change over time	2009	Change over time
Low performers	30	▽ 1 pp	34	▽ 1 pp
Middle performers	16	▲ 3 pp	22	▲ 2 pp
High performers	7	▲ 6 pp	13	△ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2009.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 9.15 Percentage of students who reported how often behaviours related to disciplinary climate occurred in their English classes in PISA 2009, and the difference between PISA 2009 and 2018, by reading literacy performance group

Figure 9.16 shows there was a small positive association between disciplinary climate in English classes and reading literacy performance ($r = 0.18$). Students who reported a more favourable disciplinary climate performed higher in reading literacy than students who reported a less favourable disciplinary climate.

On the disciplinary climate index, students in the highest quartile scored 55 points on average higher than students in the lowest quartile. This score point difference was equal to around one and two-thirds of a year of schooling.

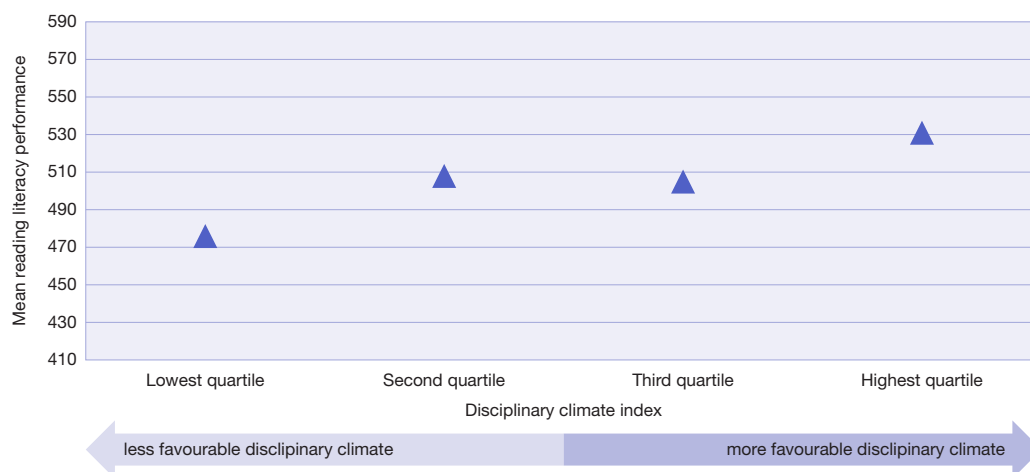


FIGURE 9.16 Relationship between disciplinary climate and reading literacy performance, for Australia



Student behaviour hindering learning

CHAPTER

10

An important aspect of the quality and character of school life is school climate. Kutsyruba et al., (2016) report that school climate influences how a student feels in their school environment and is an important precursor to academic achievement. To examine the impact of student behaviour factors on school climate, principals were asked to report, via 11 items, the extent to which they perceived the learning of students was hindered.

This chapter examines the extent to which student behaviour influences learning as perceived by school principals, and examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in student behaviour hindering learning and how they vary by student characteristics. It also explores the change in student behaviour hindering learning over a 6-year period, and the relationship between student behaviour hindering learning and reading literacy performance.

Key findings

- On average, principals of Australian students reported similar levels of student behaviour hindering learning by principals of students in Korea, Chinese Taipei, Estonia, Ireland, Germany and the OECD average.
- On average, 50% of principals of Australian students reported student learning was hindered to some extent or a lot by *students not being attentive*. The percentages were lower for *student truancy* and *students lacking respect for teachers* (about one-third of principals), *students skipping classes* and *students intimidating or bullying other students* (approximately one quarter), and *student use of alcohol or drugs* (one in ten principals).
- Principals reported student behaviour hindering learning increased between PISA 2012 and 2018. For instance, there was a 7 percentage point increase for Australian principals who agreed to some extent or a lot that *students lacking respect for teachers* and *student use of alcohol or drugs* hindered learning, and a 4 percentage point increase for *students intimidating or bullying other students*.

- ➔ Principals of students in the Australian Capital Territory reported similar levels of student behaviour hindering learning to principals in New South Wales and Western Australia, and to a lesser extent than principals of students from the other jurisdictions.
- ➔ Principals of students in government schools reported student behaviour hindered learning to a greater extent than did principals in Catholic schools, who in turn reported that student learning in Catholic schools was hindered to a greater extent than in independent schools.
- ➔ Principals reported that student behaviour hindered learning for male students to a greater extent than female students.
- ➔ Principals reported that student behaviour hindered learning for the least disadvantaged students to a lesser extent than the most disadvantaged students.
- ➔ Principals of students in remote schools reported to a greater extent that learning was hindered by student behaviour than reported by principals of students in provincial schools, who in turn reported that learning was hindered by student behaviour to a greater extent than principals of students in metropolitan schools.
- ➔ Principals reported that student behaviour hindered learning for Indigenous students to a greater extent than non-Indigenous students.
- ➔ Principals reported that student behaviour hindered learning for Australian-born students to a greater extent than first-generation students.
- ➔ Students in the highest quartile of the student behaviour hindering learning index scored on average 67 points lower (about two years of schooling) in reading literacy performance than students in the lowest quartile.

How is student behaviour hindering learning measured in PISA?

In 2018, PISA asked school principals to report the extent to which they perceived student learning was hindered by the following factors:

- ▶ *Student truancy.*
- ▶ *Students skipping classes.*
- ▶ *Students lacking respect for teachers.*
- ▶ *Student use of alcohol or drugs.*
- ▶ *Students intimidating or bullying other students.*
- ▶ *Students not being attentive.*

Principals were asked to respond to each of the statements on a four-point scale (*not at all, very little, to some extent, a lot*).

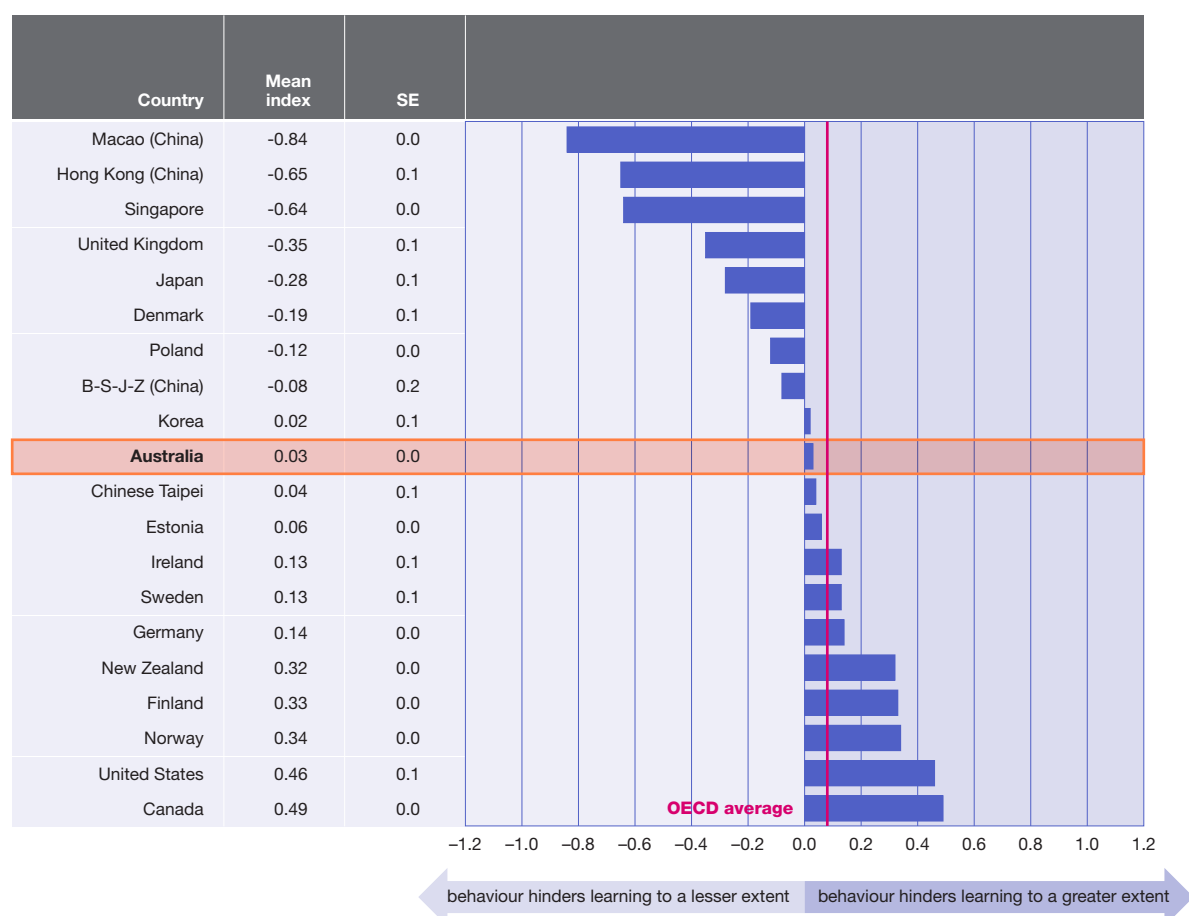
An index of student behaviour hindering learning was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values in this index reflect principals' perceptions that students' behaviour hinders learning to a greater extent, compared to the OECD average; negative values indicate that principals believe students' behaviour hinders learning to a lesser extent compared to the OECD average. Principals' responses to these items are likely to reflect both how frequently these behaviours happen in their schools and, how much they affect student learning when they do happen.

Student behaviour hindering learning in an international context

Figure 10.1 presents the mean index scores for Australia, comparison countries, and the OECD average on the student behaviour hindering learning index. Principals of students in countries including Macao (China), Hong Kong (China), Singapore, the United Kingdom, Japan, Denmark and Poland reported lower levels of student behaviour hindering learning than Australian principals, while

principals in B-S-J-Z (China), Korea, Chinese Taipei, Estonia, Ireland, Sweden and Germany reported similar levels of student behaviour hindering learning to Australian principals.

Principals in Canada reported the greatest levels of student behaviour hindering learning, achieving the highest mean index of all countries, while principals in Macao (China), reported the lowest mean index score. The mean index score of 0.03 for Australia was similar to the OECD average (0.08).



Note: Countries with the lowest mean score on the student behaviour hindering learning index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 10.1 Student-related behaviours hindering learning index, for Australia and comparison countries

Figure 10.2 shows principals' responses to the individual items comprising the index of student behaviour hindering learning.³⁴

- ▶ Thirty-three per cent of Australian students attended schools in which principals perceived student learning was hindered by *student truancy*. This percentage was similar for principals of students in B-S-J-Z (China), Sweden, Denmark, and Korea. The percentages were higher for principals of students in Canada, Ireland, the United States, New Zealand, Finland and Estonia, and lower for principals of students in the nine remaining comparison countries, including Hong Kong (China), Macao (China), Singapore and Norway.
- ▶ Twenty-four per cent of Australian students attended schools in which principals perceived student learning was hindered by *students skipping classes*. This percentage was similar for principals of students in Denmark, Ireland and Korea. The percentages were higher for principals of students in eight comparison countries, including Canada, New Zealand, Estonia and B-S-J-Z (China), and lower for principals of students in the eight remaining comparison countries, including Hong Kong (China), Macao (China), Singapore and the United Kingdom.

34 For ease of reading, from this point onward, 'to some extent' or 'a lot' will be referred to as 'hindered'.

- ▶ Thirty per cent of Australian students attended schools in which principals perceived student learning was hindered by *students lacking respect for teachers*. This was similar for principals of students in B-S-J-Z (China), Finland, Korea, Norway, Sweden, Chinese Taipei and the United States. The percentage was lower for principals of students from the 13 remaining comparison countries, including Singapore, Ireland, Macao (China) and Hong Kong (China).
- ▶ Eleven per cent of Australian students attended schools in which principals perceived student learning was hindered by *student use of alcohol or drugs*. This percentage was similar for principals of students in Chinese Taipei, Germany, Ireland, New Zealand and the OECD average. The percentages were higher for principals of students in B-S-J-Z (China), the United States, Korea and Canada, and lower for principals of students in the remaining 11 comparison countries, including Hong Kong (China), Poland, Singapore and Japan.
- ▶ Twenty-three per cent of Australian students attended schools in which principals perceived student learning was hindered by *students intimidating or bullying other students*. This percentage was similar for principals of students in Korea, Finland, Germany, Canada and New Zealand. The percentages were higher for principals of students in B-S-J-Z (China), and lower for principals of students in countries including the United States, Denmark, Ireland, Hong Kong (China), Japan and Macao (China).
- ▶ Fifty per cent of Australian students attended schools in which principals perceived student learning was hindered by *students not being attentive*. This percentage was similar for principals of students in Canada, Korea, Japan, the United States, New Zealand, Sweden and Ireland. The percentages were higher for principals of students in Norway, Finland, Germany, Hong Kong (China), Estonia and B-S-J-Z (China), and lower for principals of students in Macao (China), the United Kingdom, Singapore, Denmark and Chinese Taipei.

Country	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy	Students skipping classes	Students lacking respect for teachers	Student use of alcohol or drugs	Students intimidating or bullying other students	Students not being attentive
Macao (China)	6	8	10	4	11	43
Hong Kong (China)	5	5	10	1	8	63
Singapore	11	9	5	2	8	32
United Kingdom	20	11	12	3	5	39
Japan	22	15	22	2	13	50
Denmark	35	22	21	4	6	29
Poland	21	34	15	2	8	59
B-S-J-Z (China)	39	40	37	34	37	60
Korea	33	30	38	20	22	51
Australia	33	24	30	11	23	50
Chinese Taipei	14	18	26	10	12	17
Estonia	42	43	14	2	18	62
Ireland	58	22	8	10	9	43
Sweden	35	40	27	4	16	43
Germany	27	18	20	9	21	71
New Zealand	52	44	23	13	18	47
Finland	48	34	29	4	22	71
Norway	12	13	23	4	16	72
United States	56	37	24	30	15	49
Canada	58	55	20	28	19	54
OECD average	38	35	22	10	12	59

Note: Countries are listed from the lowest to highest mean score on the student behaviour hindering learning index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 10.2 Percentage of student-related behaviours hindering learning, for Australia and comparison countries

In PISA 2012, principals were asked the same questions about the extent to which student learning was hindered by student behaviour. Figure 10.3 shows the percentages of Australian students attending schools in which principals perceived student learning was hindered by each student behaviour, along with the change in the percentage of students-related behaviours between PISA 2012 and 2018 and the significance of that change.

- Between 2012 and 2018, on average, the percentage of students attending schools in which principals perceived student learning was hindered by *students lacking respect for teachers* and *student use of alcohol or drugs* increased by 7 percentage points, and the percentage of students attending schools in which principals perceived student learning was hindered by *students intimidating or bullying other students* increased by 4 percentage points over the 6-year period.

Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot									
Student truancy		Students skipping classes		Students lacking respect for teachers		Student use of alcohol or drugs		Students intimidating or bullying other students	
2012	Change over time	2012	Change over time	2012	Change over time	2012	Change over time	2012	Change over time
32	△ 1 pp	25	▽ 1 pp	23	▲ 7 pp		▲ 7 pp	19	▲ 4 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

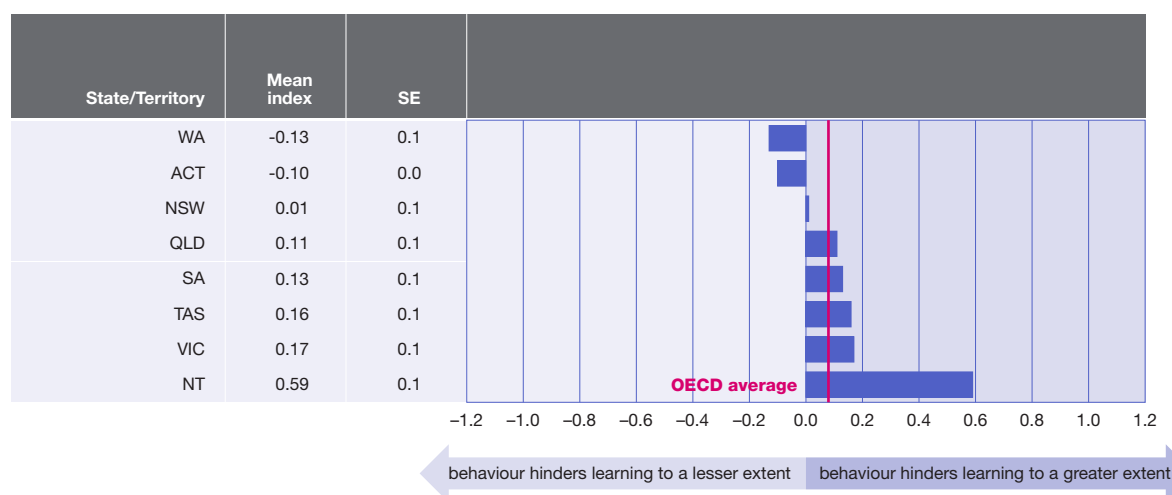
There is no comparison for students not being attentive as this statements was not administered to students in PISA 2012.

FIGURE 10.3 Percentage of student-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018

Student behaviour hindering learning in a national context

Figure 10.4 shows the mean index scores for principals in each of the Australian states and territories, and the OECD average on the student behaviour hindering learning index. The mean index scores on the student behaviour hindering learning index ranged from -0.13 in Western Australia to 0.59 in the Northern Territory.

- Principals of students in the Northern Territory perceived student learning was hindered to a greater extent by student behaviour than all other jurisdictions, while principals of students in Western Australia, the Australian Capital Territory and New South Wales perceived student learning was hindered to a lesser extent by student behaviour.



Note: Jurisdictions with the lowest mean score on the student behaviour hindering learning index are placed at the top of the figure and jurisdictions with highest mean score on the index are placed at the bottom.

FIGURE 10.4 Student-related behaviours hindering learning index, by state and territory

Figure 10.5 presents principals' responses to the individual items comprising the index of student-related behaviour. The range of response across the jurisdiction is as follows.

- ▶ In the Australian Capital Territory, 15% of students attended schools at which principals perceived *student truancy* hindered student learning, in contrast to 73% reported by principals of students who attended schools in the Northern Territory.
- ▶ In the Australian Capital Territory, 13% of students attended schools at which principals' perceived *student skipping classes* hindered student learning, in contrast to 72% reported by principals of students who attended schools in the Northern Territory.
- ▶ In the Australian Capital Territory, 15% of students attended schools at which principals' perceived *students lacking respect for teachers'* hindered student learning, in contrast to 34% reported by principals of students who attended schools in Western Australia.
- ▶ In the Northern Territory, 7% of students attended schools at which principals perceived *student use of alcohol or drugs* hindered student learning, in contrast to 13% reported by principals of students who attended schools in Western Australia. In the Australian Capital Territory, no principals perceived student learning was hindered by *student use of alcohol or drugs*.
- ▶ In the Australian Capital Territory, 8% of students attended schools at which principals perceived *intimidating or bullying other students* hindered student learning, in contrast to 31% reported by principals of students who attended schools in Tasmania.
- ▶ In the Australian Capital Territory, 36% of students attended schools at which principals' perceived *students not being attentive* hindered student learning, in contrast to 57% reported by principals of students who attended schools in Queensland.

State/Territory	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy	Students skipping classes	Students lacking respect for teachers	Student use of alcohol or drugs	Students intimidating or bullying other students	Students not being attentive
WA	37	26	34	13	23	52
ACT	15	13	15		8	36
NSW	32	27	31	12	29	53
QLD	36	26	33	11	25	57
SA	36	23	22	11	21	42
TAS	34	24	31	8	31	46
VIC	30	17	28	11	14	43
NT	73	72	28	7	13	38

Note: Jurisdictions are listed from lowest to highest mean score on the student behaviour index.

FIGURE 10.5 Percentage of student-related behaviours hindering learning, by state and territory

Figure 10.6 shows the percentages of Australian students attending schools in which principals perceived student learning was hindered by each student behaviour, by jurisdiction, along with the change in the percentage of student-related behaviours between PISA 2012 and 2018 and the significance of this change. Between 2012 and 2018:

- ▶ On average, the percentage of students attending schools in which principals perceived student learning was hindered by *student truancy* increased by 24 percentage points in the Northern Territory, while an 8 percentage point decrease was observed by principals in the Australian Capital Territory schools.
- ▶ On average, the percentage of students attending schools in which principals perceived student learning was hindered by *students skipping classes* increased by 17 percentage points in the Northern Territory, and decreased by 12 percentage points in the Australian Capital Territory.
- ▶ On average, the percentage of students attending schools in which principals perceived student learning was hindered by *students lacking respect for teachers* increased by 13 percentage

points in Western Australia, by 11 percentage points in Victoria, and by 2 percentage points in the Australian Capital Territory.

- ▶ On average, the percentage of students attending schools in which the principal perceived *student use of alcohol or drugs* hindered student learning increased in Victoria by 10 percentage points, by 8 percentage points in Western Australia and by 7 percentage points in New South Wales.
- ▶ On average, the percentage of principals of students attending schools in which the principal perceived *students intimidating or bullying other students* decreased by 12 percentage points in the Australian Capital Territory.

State/Territory	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy		Students skipping classes		Students lacking respect for teachers	
	2012	Change over time	2012	Change over time	2012	Change over time
WA	28	△ 9 pp	23	△ 3 pp	21	▲ 13 pp
ACT	23	▼ 8 pp	25	▼ 12 pp	13	▲ 2 pp
NSW	36	▽ 4 pp	29	▽ 2 pp	28	△ 3 pp
QLD	40	▽ 4 pp	29	▽ 3 pp	26	△ 7 pp
SA	36	0 pp	24	▽ 1 pp	18	△ 4 pp
TAS	31	△ 3 pp	24	0 pp	32	▽ 1 pp
VIC	22	△ 8 pp	15	△ 2 pp	17	▲ 11 pp
NT	49	▲ 24 pp	55	▲ 17 pp	31	▽ 3 pp

State/Territory	Student use of alcohol or drugs		Students intimidating or bullying other students	
	2012	Change over time	2012	Change over time
WA	5	▲ 8 pp	20	△ 3 pp
ACT	1	0 pp	20	▼ 12 pp
NSW	5	▲ 7 pp	23	△ 6 pp
QLD	5	▽ 4 pp	19	△ 6 pp
SA	8	△ 3 pp	28	▽ 7 pp
TAS	8	0 pp	36	▽ 5 pp
VIC	1	▲ 10 pp	9	△ 5 pp
NT	13	▽ 6 pp	15	▽ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

There is no comparison for students not being attentive as this statement was not administered to students in PISA 2012.

FIGURE 10.6 Percentage of student-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, by state and territory

Figure 10.7 shows the mean index score on the student behaviour index for each school sector. Principals of students attending government schools perceived student learning to be hindered by student behaviour to a greater extent than in independent schools and Catholic schools, while principals of students in Catholic schools perceived student behaviour hindered learning to a greater extent than in independent schools.

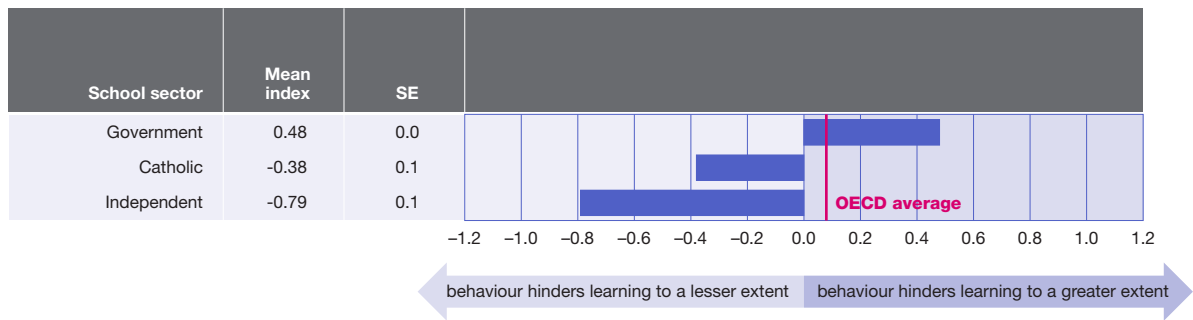


FIGURE 10.7 Student-related behaviours hindering learning index, by school sector

Figure 10.8 shows the percentage of Australian students attending schools in which principals' perceived student learning was hindered by each student behaviour. Overall, irrespective of the student behaviour, principals of students attending government schools perceived student behaviour significantly impacted student learning than their counterparts in Catholic and independent schools.

- ▶ A higher percentage of principals of students in government schools (50%) perceived *student truancy* hindered student learning than principals of students in Catholic schools (16%) and independent schools (5%).
- ▶ A higher percentage of principals of students in government schools (40%) perceived *students skipping classes* hindered student learning than principals of students in Catholic schools (4%) and independent schools (2%).
- ▶ A higher percentage of principals of students in government schools (45%) perceived *students lacking respect for teachers* hindered student learning to a greater extent than principals of students in Catholic schools (12%) and independent schools (7%).
- ▶ A higher percentage of principals of students in government schools (17%) perceived student use of alcohol or drugs hindered student learning to a greater extent than principals of students in Catholic schools (4%) and independent schools (2%).
- ▶ A higher percentage of principals of students in government schools (32%) perceived students intimidating or bullying other students hindered student learning to a greater extent than principals of students in Catholic schools and independent schools (11%).
- ▶ A higher percentage of principals of students in government schools (62%) perceived *students not being attentive* hindered student learning than principals of students in Catholic schools (40%) and independent schools (23%).

School sector	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy	Students skipping classes	Students lacking respect for teachers	Student use of alcohol or drugs	Students intimidating or bullying other students	Students not being attentive
Government	50	40	45	17	32	62
Catholic	16	4	12	4	11	40
Independent	5	2	7	2	11	23

FIGURE 10.8 Percentage of student-related behaviours hindering learning, by school sector

Figure 10.9 shows the percentages of Australian students attending schools in which principals perceived student learning was hindered by each student behaviour by school sector, along with the change in the percentage of student-related behaviours between PISA 2012 and 2018 and the significance of this change.

- ▶ Between 2012 and 2018, on average, the percentage of principals of students attending Catholic schools who perceived student learning was hindered by *student truancy* increased by 11 percentage points.

- ▶ Over the 6-year period, on average, the percentage of principals of students attending government schools who perceived student learning was hindered by *students lacking respect for teachers* increased by 12 percentage points.
- ▶ Over the 6-year period, on average, the percentage of principals of students attending schools who perceived student learning was hindered by *student use of alcohol or drugs* increased by 11 percentage points in government schools and by 3 percentage points in Catholic schools.

School sector	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy		Students skipping classes		Students lacking respect for teachers	
	2012	Change over time	2012	Change over time	2012	Change over time
Government	50	0 pp	40	0 pp	33	▲ 12 pp
Catholic	5	▲ 11 pp	7	△ 2 pp	7	△ 5 pp
Independent	7	▽ 2 pp	10	▽ 1 pp	10	▽ 3 pp

School sector	Student use of alcohol or drugs		Students intimidating or bullying other students	
	2012	Change over time	2012	Change over time
Government	6	▲ 11 pp	26	△ 6 pp
Catholic	1	▲ 3 pp	8	△ 3 pp
Independent	3	▽ 1 pp	9	△ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

There is no comparison for students not being attentive as this statement was not administered to students in PISA 2012.

FIGURE 10.9 Percentage of student-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, by school sector

Student behaviour hindering learning for different demographic groups in a national context

Figure 10.10 shows the mean index score on the student behaviour index for each different demographic group.

- ▶ Principals reported that student behaviour hindered learning for male students to a great extent than female students.
- ▶ Principals reported that student behaviour hindered learning for the least disadvantaged students to a lesser extent than the most disadvantaged students.
- ▶ Principals of students who attended schools in remote areas perceived student behaviour hindered learning to a greater extent than did principals of students in provincial schools, who in turn reported that learning was hindered by student behaviour to a greater extent than principals of students in metropolitan schools.
- ▶ Principals reported that student behaviour hindered learning for Indigenous students to a greater extent than non-Indigenous students.
- ▶ Principals reported that student behaviour hindered learning for Australian-born students to a greater extent than first-generation students.

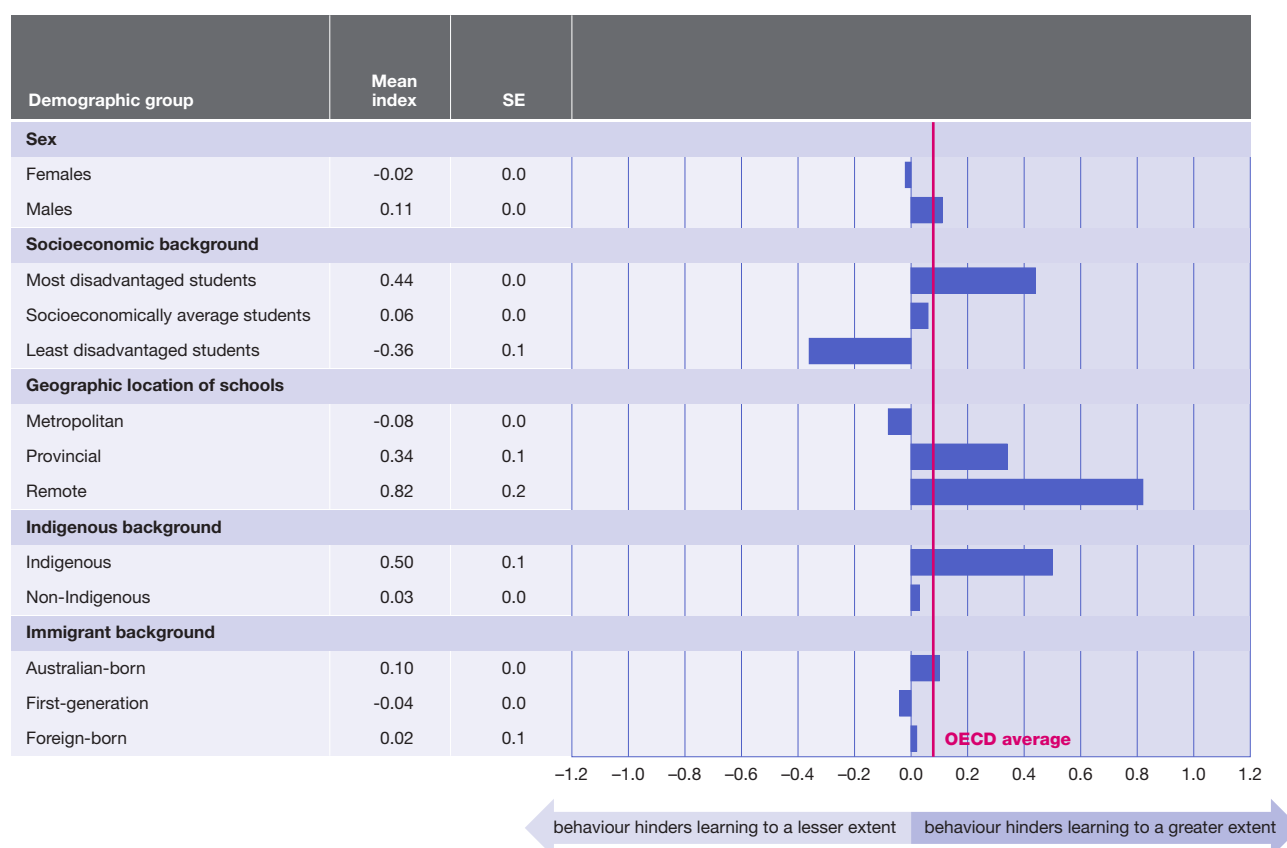


FIGURE 10.10 Student-related behaviours hindering learning index, for different demographic groups

Figure 10.11 shows the percentages of Australian students attending schools in which principals perceived student learning was hindered by each student-related behaviour for the different demographic groups. Irrespective of the student behaviour, most disadvantaged students' principals reported the highest prevalence of problematic behaviour hindering student learning.

- ▶ A higher percentage of most disadvantaged students' principals (63%) perceived *students not being attentive* hindered student learning to a greater extent than reported by principals of least disadvantaged students (35%), while a higher percentage of most disadvantaged students' principals (51%) perceived *student truancy* hindered student learning to a greater extent than reported by principals of least disadvantaged students (18%). Principals also reported a higher percentage of disadvantaged students (45%) in their schools *lacking respect for teachers* than did principals of least disadvantaged students (16%).
- ▶ *Students not being attentive* was more frequently reported as behaviour hindering student learning by principals of students attending remote schools (89%) than by principals of provincial schools (58%) and principals of metropolitan schools (47%). Similarly, *students lacking respect for teachers* was more frequently reported as behaviour hindering student learning by principals of students attending remote schools (81%) than by principals of provincial schools (40%) and principals of metropolitan schools (26%).
- ▶ Overall, principals of Indigenous students reported a higher prevalence of student behaviour hindering learning than occurring among non-Indigenous students. Principals reported *students not being attentive* was higher among Indigenous students (68%) than non-Indigenous students (49%). *Student truancy* was also higher among Indigenous students (54%) than among non-Indigenous students (33%). Similarly, principals reported a higher percentage of Indigenous students (46%) than non-Indigenous students (24%) *skipping classes*.
- ▶ A higher percentage of principals of Australian-born students (36%) perceived *student truancy* hindered student learning than among first-generation born students (29%).

Demographic group	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot			
	Student truancy	Students skipping classes	Students lacking respect for teachers	Student use of alcohol or drugs
Sex				
Females	33	25	29	11
Males	34	25	32	11
Socioeconomic background				
Most disadvantaged students	51	40	45	18
Socioeconomically average students	33	24	31	10
Least disadvantaged students	18	12	16	7
Geographic location of schools				
Metropolitan	28	20	26	10
Provincial	50	35	40	14
Remote	49	49	81	26
Indigenous background				
Indigenous	54	46	48	18
Non-Indigenous	33	24	30	11
Immigrant background				
Australian-born	36	26	32	13
First-generation	29	22	28	10
Foreign-born	35	27	30	10

Demographic group	Students intimidating or bullying other students	Students not being attentive
Sex		
Females	22	49
Males	23	51
Socioeconomic background		
Most disadvantaged students	33	63
Socioeconomically average students	22	51
Least disadvantaged students	14	35
Geographic location of schools		
Metropolitan	20	47
Provincial	30	58
Remote	49	89
Indigenous background		
Indigenous	34	68
Non-Indigenous	22	49
Immigrant background		
Australian-born	23	52
First-generation	22	47
Foreign-born	22	47

FIGURE 10.11 Percentage of student-related behaviours hindering learning, for different demographic groups

Figure 10.12 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each student behaviour for different demographic groups, along with the change in the percentage of principals' perceptions between PISA 2012 and 2018 and the significance of that change.

- ▶ Between 2012 and 2018, on average, the percentage of female and male students in which principals perceived student learning was hindered by *students lacking respect for teachers* increased by 7 and 8 percentage points respectively. A similar sized increase was perceived among principals with respect to female students and male students' *use of alcohol or drugs* (7 and 6 percentage points respectively for both male and female students).

- ▶ Over the 6-year period, on average, the percentage of students attending schools in which principals perceived most disadvantaged students learning was hindered by *students lacking respect for teachers* increased by 12 percentage points, while principals reported an 11 percentage point increase in the percentage of most disadvantaged students *use of alcohol or drugs* hindering learning compared to a 4 percentage point increase among least disadvantaged students.
- ▶ On average, the percentage of students attending schools in which principals perceived students in remote schools learning was hindered by *students lacking respect for teachers* increased by 57 percentage points, compared to an 8 percentage point increase perceived by principals in metropolitan schools. The percentage of students attending schools in provincial areas in which principals perceived students learning was hindered by *student truancy* increased by 10 percentage points.
- ▶ On average the percentage of Indigenous students attending schools in which principals perceived student learning was hindered by *students lacking respect for teachers* decreased by 13 percentage points among Indigenous students, while it increased by 26 percentage points for non-Indigenous students. Similarly, the percentage of Indigenous students attending schools where principals perceived student learning was hindered by *student intimidating other students* decreased by 9 percentage points while it increased by 16 percentage points for non-Indigenous students. Principals of non-indigenous students reported a 14 percentage point increase in student learning being hindered by *student use of alcohol or drugs*.
- ▶ Between 2012 and 2018, on average, the percentage of students attending schools in which principals perceived student learning was hindered by *students lacking respect for teachers* increased by 11 percentage points for foreign-born students, 9 percentage points for first-generation students and 6 percentage points for Australian-born students. Principals reported an 8 percentage point increase among Australian-born students *use of alcohol or drugs*, while first-generation born and foreign-born students experienced similar percentage point increase (6% and 7% respectively).
- ▶ Over the 6-year period, on average, the percentage of students attending schools in which principals' perceived *students intimidating or bullying other students* hindered student learning, increased by 6 percentage points for both first-generation born students and foreign-born students.

Demographic group	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy		Students skipping classes		Students lacking respect for teachers	
	2012	Change over time	2012	Change over time	2012	Change over time
Sex						
Females	32	△ 1 pp	24	△ 1 pp	22	▲ 7 pp
Males	32	△ 2 pp	25	0 pp	24	▲ 8 pp
Socioeconomic background						
Most disadvantaged students	46	△ 5 pp	36	△ 4 pp	33	▲ 12 pp
Socioeconomically average students	32	△ 1 pp	24	0 pp	23	▲ 8 pp
Least disadvantaged students	17	△ 1 pp	13	▽ 1 pp	12	△ 4 pp
Geographic location of schools						
Metropolitan	29	▽ 1 pp	22	▽ 2 pp	18	▲ 8 pp
Provincial	40	▲ 10 pp	30	△ 5 pp	38	△ 2 pp
Remote	71	▽ 22 pp	50	▽ 1 pp	24	▲ 57 pp
Indigenous background						
Indigenous	58	▽ 4 pp	49	▽ 3 pp	43	▼ 13 pp
Non-Indigenous	31	△ 2 pp	24	0 pp	22	▲ 26 pp
Immigrant background						
Australian-born	34	△ 2 pp	26	0 pp	26	▲ 6 pp
First-generation	27	△ 2 pp	21	△ 1 pp	19	▲ 9 pp
Foreign-born	33	△ 2 pp	27	0 pp	19	▲ 11 pp

Demographic group	Student use of alcohol or drugs		Students intimidating or bullying other students	
	2012	Change over time	2012	Change over time
Sex				
Females	4	▲ 7 pp	18	△ 4 pp
Males	5	▲ 6 pp	19	△ 4 pp
Socioeconomic background				
Most disadvantaged students	7	▲ 11 pp	26	▲ 7 pp
Socioeconomically average students	4	▲ 6 pp	18	△ 4 pp
Least disadvantaged students	3	▲ 4 pp	12	△ 2 pp
Geographic location of schools				
Metropolitan	3	▲ 7 pp	15	▲ 5 pp
Provincial	9	△ 5 pp	28	△ 2 pp
Remote	3	△ 21 pp	44	△ 5 pp
Indigenous background				
Indigenous	9	△ 2 pp	31	▼ 9 pp
Non-Indigenous	4	▲ 14 pp	18	▲ 16 pp
Immigrant background				
Australian-born	3	▲ 8 pp	20	△ 3 pp
First-generation	4	▲ 6 pp	16	▲ 6 pp
Foreign-born	4	▲ 7 pp	16	▲ 6 pp

Notes: Change over time represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

There is no comparison for students not being attentive as this statements was not administered to students in PISA 2012.

FIGURE 10.12 Percentage of student-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, for different demographic groups

Student behaviour hindering learning and reading literacy performance

Figure 10.13 shows that principals of students who were high performers perceived student behaviour hindered student learning to a far lesser extent than did principals of students who were low performers.

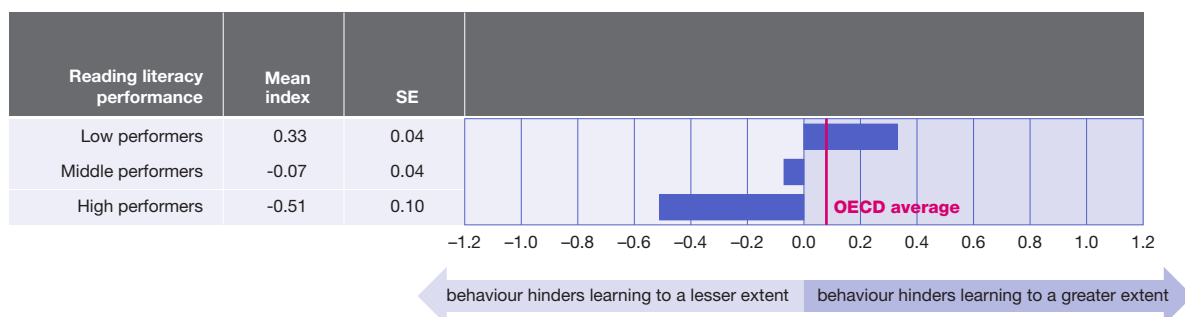


FIGURE 10.13 Student-related behaviours hindering learning index, by reading literacy performance group for Australia

Figure 10.14 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each student behaviour, by reading literacy performance group.

- ▶ A higher percentage of principals of low performing students (61%) perceived *students not being attentive* hindered students' learning than reported by principals of high performing students (27%). Similarly, a higher percentage of principals of low performing students (44%) perceived *student truancy* hindered students' learning than reported by principals of high performing students (16%).
- ▶ A higher percentage of principals' (42%) perceived *students lacking respect for teachers* hindered low performing students learning to a greater extent than principals of high performing students (13%).

Reading literacy performance	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy	Students skipping classes	Students lacking respect for teachers	Student use of alcohol or drugs	Students intimidating or bullying other students	Students not being attentive
Low performers	44	34	42	15	29	61
Middle performers	29	20	26	10	21	46
High performers	16	10	13	5	10	27

FIGURE 10.14 Percentage of student-related behaviours hinder student learning, by reading literacy performance group

Figure 10.15 shows the percentages of Australian students attending schools in which principals perceived student learning was hindered by each student behaviour by reading literacy performance, along with the change in the percentage of student-related behaviours between PISA 2012 and 2018.

- ▶ Between 2012 and 2018, on average, the percentage of students in which principals perceived low performing students' learning was hindered by *students lacking respect for teachers* increased by 7 percentage points.
- ▶ Over the 6-year period, on average, the percentage of students attending schools in which principals perceived low performing students' learning was hindered by *student use of alcohol or drugs* increased by 8 percentage points.

- Between 2012 and 2018, on average, the percentage of students attending schools in which principals perceived high performing students' learning was hindered by student behaviour remained relatively unchanged.

Reading literacy performance	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Student truancy		Students skipping classes		Students lacking respect for teachers	
	2012	Change over time	2012	Change over time	2012	Change over time
Low performers	48	▽ 4 pp	38	▽ 4 pp	35	▲ 7 pp
Middle performers	29	0 pp	22	▽ 2 pp	21	▲ 5 pp
High performers	13	△ 3 pp	9	△ 1 pp	8	△ 5 pp

Reading literacy performance	Student use of alcohol or drugs		Students intimidating or bullying other students	
	2012	Change over time	2012	Change over time
Low performers	7	▲ 8 pp	26	△ 3 pp
Middle performers	4	▲ 6 pp	17	△ 4 pp
High performers	1	△ 4 pp	10	0 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

There is no comparison for students not being attentive as this statements was not administered to students in PISA 2012.

FIGURE 10.15 Percentage of student-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, by reading literacy performance group

Figure 10.16 shows the relationship between student behaviour (by quartiles) and reading literacy. For Australian students attending schools in which principals perceived student behaviour hindered learning there was a very small negative relationship between student behaviour and reading literacy performance ($r = -0.23$). Students attending schools in which principals perceived student behaviour hindered learning to a lesser extent performed higher in reading literacy than students in schools whose principals perceived student behaviour was more problematic.

On the student behaviour index, students in the highest quartile (representing students whose learning was hindered to a greater extent by student behaviour) scored 67 points on average lower than students in the lowest quartile (representing students whose learning was hindered to a lesser extent). This score point difference was equal to about two years of schooling.

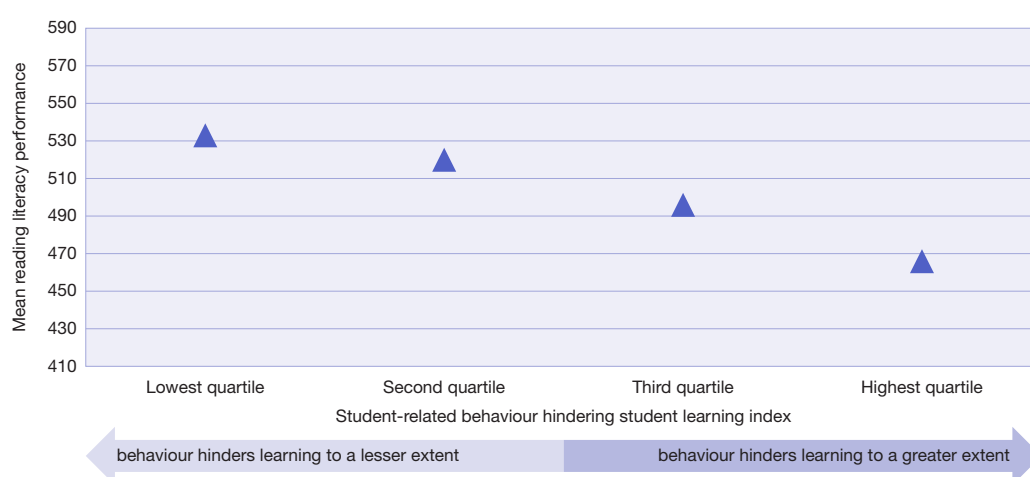


FIGURE 10.16 Relationship between student-related behaviours hindering learning and reading literacy performance, for Australia



Students' self-efficacy

CHAPTER

11

Self-efficacy is the extent to which individuals believe in their own ability to engage in certain activities and perform specific tasks, especially when facing adverse circumstances (Bandura, 1977).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in students' self-efficacy and how they vary by student characteristics. It also explores the relationship between students' self-efficacy and reading literacy performance.

Key findings

- ➔ On average, Australian students reported similar levels of self-efficacy to students in Denmark, Singapore and the OECD average.
- ➔ On average, over 90% of Australian students agreed or strongly agreed with the statements *I usually manage one way or another* and *I feel proud that I have accomplished things*. Over two-thirds of Australian students agreed or strongly agreed with the statements *my belief in myself gets me through hard times*, and *when I'm in a difficult situation, I can usually find my way out of it* and three-quarters of Australian students agreed or strongly agreed with *I feel that I can handle many things at a time*.
- ➔ Students in Victoria reported similar levels of self-efficacy to students in New South Wales, Queensland and South Australia, and greater self-efficacy than students from the other jurisdictions.
- ➔ Students in Catholic and independent schools reported similar levels of self-efficacy, and greater self-efficacy than students in government schools.
- ➔ Female students reported lower self-efficacy than male students.
- ➔ The least disadvantaged students reported greater self-efficacy than the most disadvantaged students.
- ➔ Students in metropolitan schools reported greater self-efficacy than students in provincial schools, who in turn reported having greater levels of self-efficacy to students in remote schools.

- ➔ Non-Indigenous students reported greater self-efficacy than Indigenous students.
- ➔ Australian-born students reported lower self-efficacy than first-generation and foreign-born students. First-generation and foreign-born students reported similar levels of self-efficacy.
- ➔ Students in the highest quartile of the self-efficacy index scored on average 24 points higher (around three-quarters of a year of schooling) in reading literacy performance than students in the lowest quartile.

How is students' self-efficacy measured in PISA?

In previous cycles of PISA, students were asked to judge their capabilities as they relate to specific content areas, such as mathematics or science. In 2018, PISA asked students about their general self-efficacy, or competence, particularly in the face of adversity. Self-efficacy was measured by asking students to report the extent to which they agreed with the following statements about themselves:

- ▶ *I usually manage one way or another.*
- ▶ *I feel proud that I have accomplished things.*
- ▶ *I feel that I can handle many things at a time.*
- ▶ *My belief in myself gets me through hard times.*
- ▶ *When I'm in a difficult situation, I can usually find my way out of it.*

Students were asked to respond to each of the statements on a four-point scale (*strongly disagree, disagree, agree, strongly agree*).

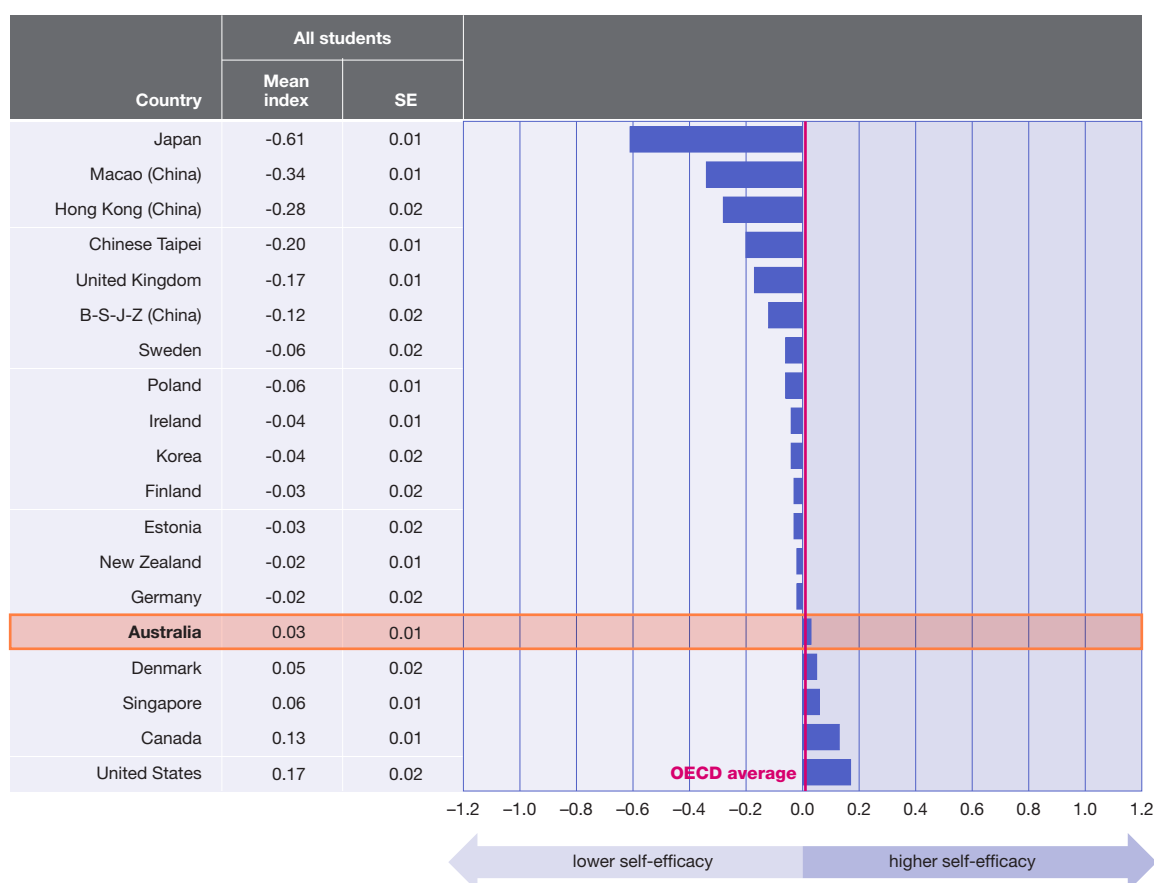
An index of self-efficacy was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values in this index indicate that students reported higher self-efficacy. Negative values on the index are indicative of students having lower self-efficacy.

Self-efficacy in an international context

Figure 11.1 presents the mean index scores for Australia, the comparison countries, and the OECD average on the self-efficacy index.

Students from countries including Japan, Macao (China), Hong Kong (China), and Chinese Taipei reported lower self-efficacy than Australian students, while students in Denmark and Singapore reported similar levels of self-efficacy to Australian students.

Students from the United States reported the highest self-efficacy, achieving the highest mean index of all countries, while students in Japan, reported the lowest mean index score. The mean index score of 0.03 for Australia was similar to that of the OECD average (0.01).



Note: Data not available for Norway. Countries with the lowest mean score on the self-efficacy index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 11.1 Self-efficacy index, for Australia and comparison countries

Figure 11.2 shows the percentages of students who reported their level of agreement with the statements about self-efficacy.

- ▶ Ninety-three per cent of Australian students agreed³⁵ with the statement *I usually manage one way or another*. This percentage was similar for students in Ireland, the United States, New Zealand, Finland, Sweden and Canada. Higher percentage of agreement were reported from Singapore, and lower for students in the 11 remaining comparison countries, including Japan, Hong Kong (China), Macao (China) and B-S-J-Z (China), and the OECD average.
- ▶ Ninety-two per cent of Australian students agreed with the statement *I feel proud that I have accomplished things*. This percentage was similar for students in Canada, Korea and the United States. The percentages were higher for students from New Zealand and Singapore and lower for students in the 13 remaining comparison countries, including Japan, Sweden, Germany and Hong Kong (China), and the OECD average.
- ▶ Seventy-three per cent of Australian students agreed with the statement *I feel that I can handle many things at a time*. This percentage was similar for students in Canada, Estonia, Ireland, Poland, and the United States. The percentages were higher for students in Denmark and Sweden, and lower for students in the 11 remaining comparison countries, including Japan, Macao (China), Korea and Chinese Taipei, and the OECD average.
- ▶ Sixty-seven per cent of Australian students agreed with the statement *my belief in myself gets me through hard times*. This percentage was similar for students in Germany, New Zealand, Ireland, Sweden and Macao (China). The percentages were higher for students in the 12 comparison

35 For ease of reading, from this point onward 'agree' and 'strongly agree' will be referred to as 'agree'.

countries, including B-S-J-Z (China), Korea, Singapore and the United States, and the OECD average, and lower for students in Japan and the United Kingdom.

- ▶ Eighty-six per cent of Australian students agreed with the statement *when I'm in a difficult situation, I can usually find my way out of it*. This percentage was similar for students in Estonia, Germany, Ireland, New Zealand and Singapore. The percentages were higher for students in Canada, Denmark and the United States who agreed when they are in a difficult situation, they can usually find their way out of it, and lower for students in the remaining 10 comparison countries, including Japan, Macao (China), Hong Kong (China) and B-S-J-Z (China), and the OECD average.

Country	Percentage of students who reported agree or strongly agree				
	I usually manage one way or another	I feel proud that I have accomplished things	I feel that I can handle many things at a time	My belief in myself gets me through hard times	When I'm in a difficult situation, I can usually find my way out of it
Japan	65	69	41	56	59
Macao (China)	79	85	51	65	72
Hong Kong (China)	74	84	66	72	73
Chinese Taipei	85	86	57	73	80
United Kingdom	90	86	66	59	80
B-S-J-Z (China)	82	90	61	81	74
Sweden	93	74	74	66	83
Poland	88	90	73	69	83
Ireland	94	90	72	66	85
Korea	86	91	55	77	81
Finland	94	89	68	71	84
Estonia	92	85	71	71	87
New Zealand	94	93	68	66	85
Germany	85	82	69	68	84
Australia	93	92	73	67	86
Denmark	91	87	78	71	90
Singapore	94	95	62	77	86
Canada	93	91	73	71	87
United States	94	92	74	75	88
OECD average	89	86	70	71	84

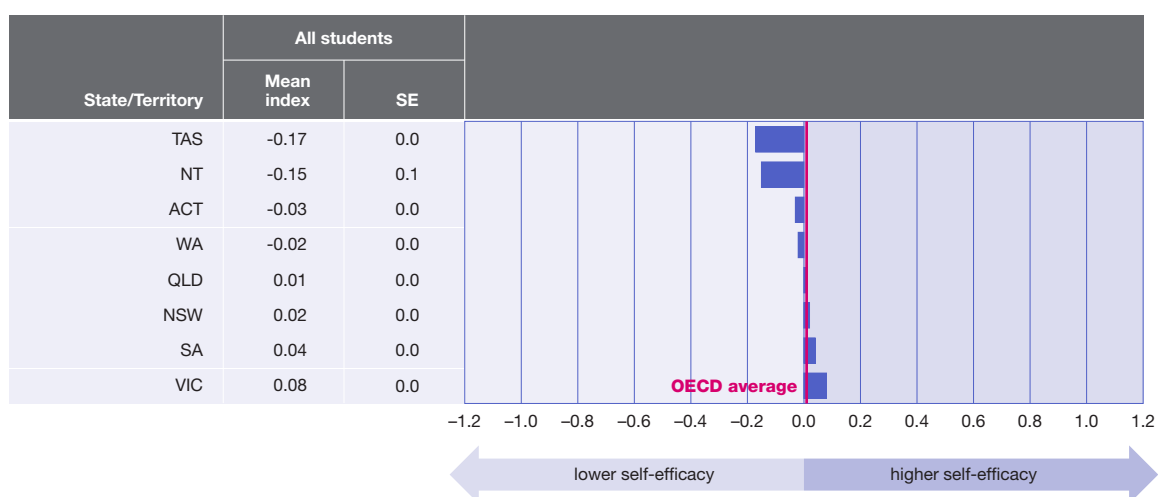
Note: Data not available for Norway. Countries are listed from the lowest to highest mean score on the self-efficacy index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 11.2 Percentage of students who reported their agreement on aspects of self-efficacy, for Australia and comparison countries

Self-efficacy in a national context

Figure 11.3 shows the mean index scores for students in each of the Australian states and territories, and the OECD average on the self-efficacy index. The mean index scores on the self-efficacy index ranged from -0.17 in Tasmania to 0.08 in Victoria.

- ▶ On average, students in Victoria reported higher self-efficacy than students in Western Australia, the Australian Capital Territory, Tasmania, the Northern Territory, and for the OECD average.
- ▶ On average, students in Tasmania reported similar levels of self-efficacy to students in the Northern Territory and lower self-efficacy than students from the other jurisdictions.



Note: Jurisdictions with the lowest mean score on the self-efficacy index are placed at the top of the figure and jurisdictions with highest mean score on the index are placed at the bottom.

FIGURE 11.3 Self-efficacy index, by state and territory

Figure 11.4 presents the percentages of students who reported their agreement with each statement related to self-efficacy, by jurisdiction.

- ▶ Eighty-nine per cent of students in the Northern Territory to 95% of students in the Australian Capital Territory agreed with the statement *I usually manage one way or another*.
- ▶ Eight-nine per cent of students in Tasmania and the Northern Territory to 93% of students in Western Australia agreed with the statement *I feel proud that I have accomplished things*.
- ▶ Sixty-eight per cent of students in Tasmania and the Northern Territory to 74% of students in Queensland agreed with the statement *I feel that I can handle many things at a time*.
- ▶ Sixty per cent of students in the Northern Territory to 69% of students in South Australia, agreed with the statement *my belief in myself gets me through hard times*.
- ▶ Eighty-two per cent of students in Tasmania to 86% of students in the Northern Territory, the Australian Capital Territory, Queensland, South Australia and Victoria agreed with the statement *when I'm in a difficult situation, I can usually find my way out of it*.

State/Territory	Percentage of students who reported agree or strongly agree				
	I usually manage one way or another	I feel proud that I have accomplished things	I feel that I can handle many things at a time	My belief in myself gets me through hard times	When I'm in a difficult situation, I can usually find my way out of it
TAS	91	89	68	63	82
NT	89	89	68	60	86
ACT	95	91	70	63	86
WA	93	93	70	67	85
QLD	93	92	74	68	86
NSW	92	91	72	66	85
SA	94	92	72	69	86
VIC	94	92	73	67	86

Note: Jurisdictions are listed from the lowest to the highest mean score on the self-efficacy index.

FIGURE 11.4 Percentage of students who reported their agreement on aspects of self-efficacy, by state and territory

Figure 11.5 shows the mean index score on the self-efficacy index for each school sector. Students in government schools reported lower self-efficacy than students in Catholic and independent schools, while students in Catholic and independent schools reported similar levels of self-efficacy.

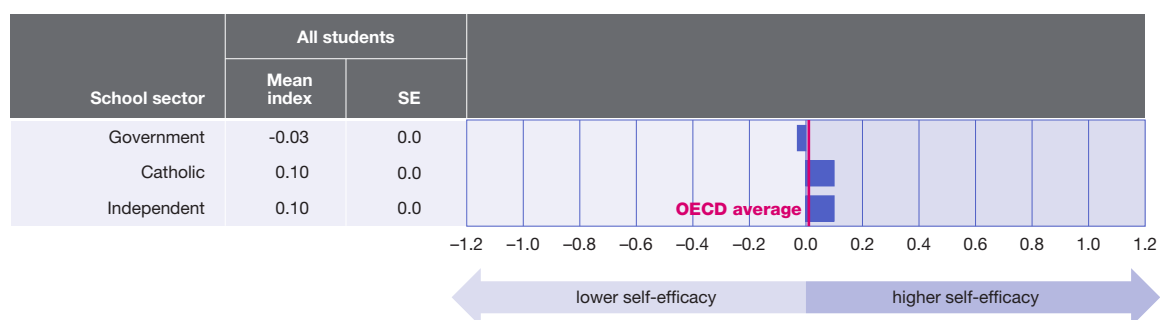


FIGURE 11.5 Self-efficacy index, by school sector

Figure 11.6 shows the percentages of students who reported their agreement with each statement related to self-efficacy, by school sector.

- ▶ Students in government schools agreed with the statement *I usually manage one way or another* to a lesser extent than students in Catholic and independent schools.
- ▶ Students in government schools agreed to a lesser extent than their Catholic and independent school peers with the statements *I feel proud that I have accomplished things* and *I feel that I can handle many things at a time*.
- ▶ Similarly, students in government schools agreed to a lesser extent than students in Catholic and independent schools that *I feel that I can handle many things at a time* and *when I'm in a difficult situation, I can usually find my way out of it*.

School sector	Percentage of students who reported agree or strongly agree				
	I usually manage one way or another	I feel proud that I have accomplished things	I feel that I can handle many things at a time	My belief in myself gets me through hard times	When I'm in a difficult situation, I can usually find my way out of it
Government	93	91	71	66	85
Catholic	94	94	74	69	87
Independent	95	93	74	67	88

FIGURE 11.6 Percentage of students who reported their agreement on aspects of self-efficacy, by school sector

Self-efficacy for different demographic groups in a national context

Figure 11.7 shows the mean index scores on the self-efficacy index for students from different demographic groups.

- ▶ Female students reported lower self-efficacy than male students.
- ▶ The least disadvantaged students reported higher self-efficacy than the most disadvantaged students.
- ▶ Students in metropolitan schools reported higher self-efficacy than students from provincial and remote schools, while students in provincial and remote schools reported similar levels of self-efficacy.
- ▶ Indigenous students reported lower self-efficacy than their non-Indigenous peers.
- ▶ Australian-born students reported lower self-efficacy than first-generation born students and foreign-born students. First-generation and foreign-born students reported similar levels of self-efficacy.

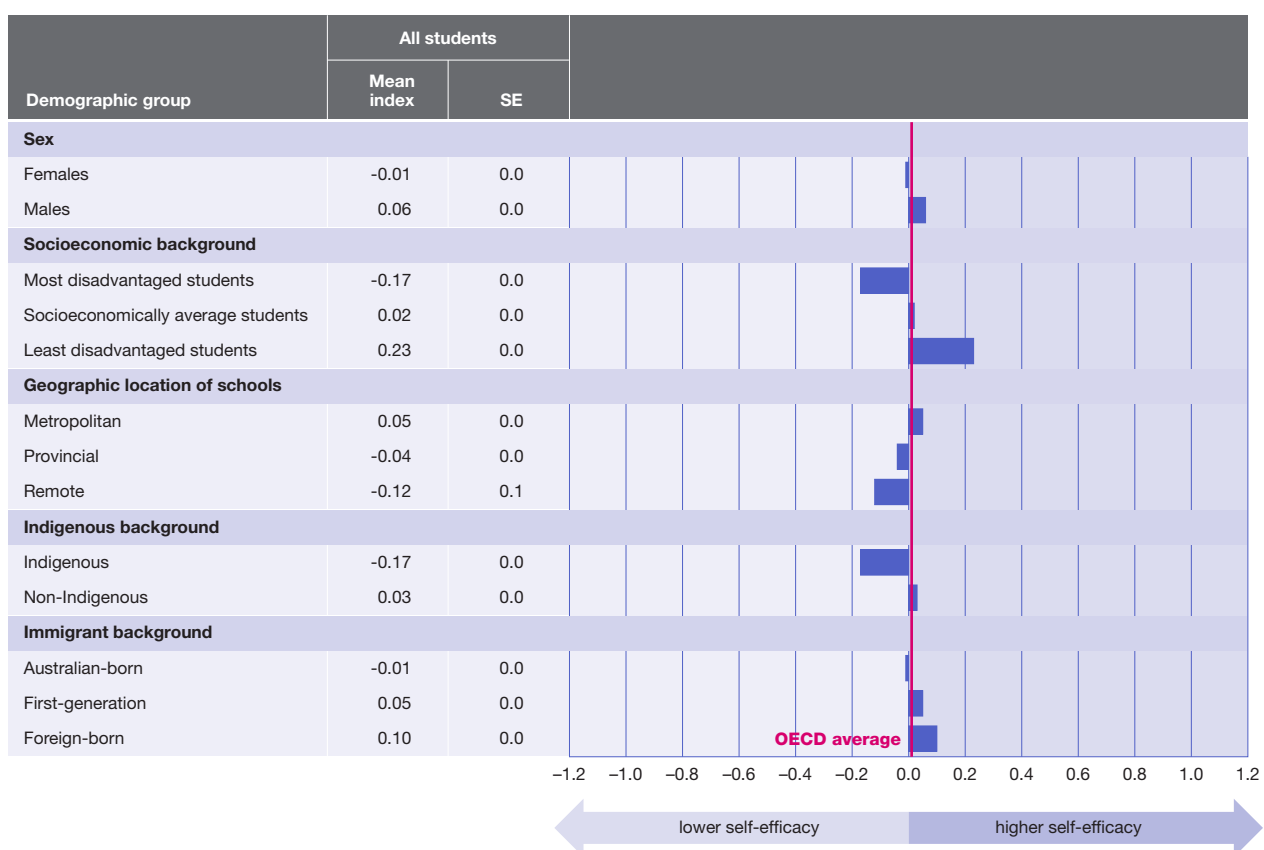


FIGURE 11.7 Self-efficacy index, for different demographic groups

Figure 11.8 presents the percentages of students who agreed with each self-efficacy statement for the different demographic groups. The largest percentage point differences were as follows:

- ▶ A higher percentage of male students (72%) than female students (62%) agreed with the statement *my belief in myself gets me through hard times*.
- ▶ Seventy-eight per cent of least disadvantaged students agreed with the statement *I feel that I can handle many things at a time* than the most disadvantaged students (66%), while 91% of least disadvantaged students agreed with *when I'm in a difficult situation, I can usually find my way out of it* compared to 79% of most disadvantaged students.
- ▶ Eighty-seven per cent of students in metropolitan schools agreed with the statement *when I'm in a difficult situation, I can usually find my way out of it* compared to 84% of students in provincial schools.
- ▶ Eighty-six per cent of non-Indigenous students agreed with the statement *when I'm in a difficult situation, I can usually find my way out of it* compared to 79% of Indigenous students, while 92% of non-Indigenous students agreed with *I feel proud that I have accomplished things* compared to 86% of non-Indigenous students. A similar percentage of Indigenous and non-Indigenous students agreed with *I feel that I can handle many things at a time* and *my belief in myself gets me through hard times*.
- ▶ Seventy-two per cent of foreign-born students agreed with the statement *my belief in myself gets me through hard times* compared to 65% of Australian-born students.
- ▶ Ninety-four per cent of foreign-born students agreed *I feel proud that I have accomplished things* compared to 91% of first-generation students.

Demographic group	Percentage of students who reported agree or strongly agree				
	I usually manage one way or another	I feel proud that I have accomplished things	I feel that I can handle many things at a time	My belief in myself gets me through hard times	When I'm in a difficult situation, I can usually find my way out of it
Sex					
Females	94	93	71	62	84
Males	93	90	74	72	88
Socioeconomic background					
Most disadvantaged students	91	88	66	65	79
Socioeconomically average students	93	92	73	67	86
Least disadvantaged students	96	95	78	69	91
Geographic location of schools					
Metropolitan	94	92	73	67	87
Provincial	93	92	72	66	84
Remote	91	91	71	68	84
Indigenous background					
Indigenous	89	86	69	70	79
Non-Indigenous	93	92	73	67	86
Immigrant background					
Australian-born	92	92	72	65	85
First-generation	93	91	74	67	87
Foreign-born	94	94	72	72	86

FIGURE 11.8 Percentage of students who reported their agreement on aspects of self-efficacy, for different demographic groups

Self-efficacy and reading literacy performance

Figure 11.9 shows that the high performers reported higher self-efficacy than the middle performers, who in turn reported higher self-efficacy than the low performers.

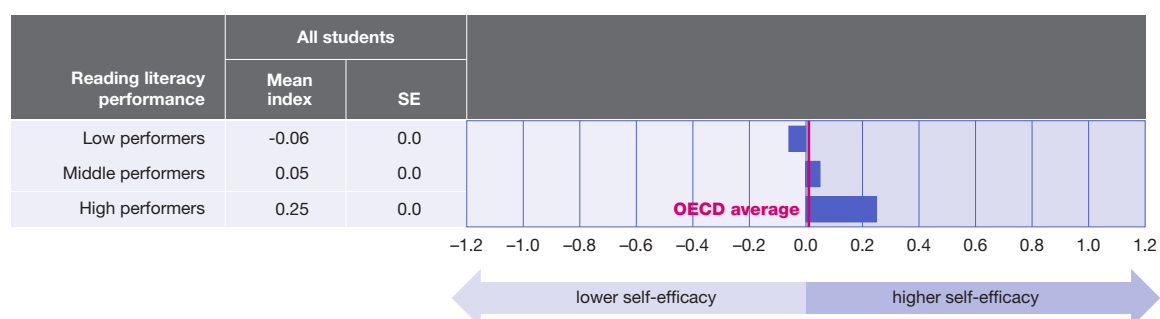


FIGURE 11.9 Self-efficacy index, by reading literacy performance group for Australia

Figure 11.10 shows overall, high performers reported higher percentages of agreement for each self-efficacy statement. The largest difference observed between the reading literacy performers were:

- ▶ An 8 percentage point difference between high performers (97%) who agreed with the statement *I usually manage one way or another* compared to 89% of low performers.
- ▶ A 7 percentage point difference between high performers (96%) who agreed with the statement *I feel proud that I have accomplished things*, compared to 89% of lower performers.
- ▶ A 5 percentage point difference between high performers (77%) who agreed with the statement *I feel that I can handle many things at a time*, compared to 72% of low performers.
- ▶ A 15 percentage point difference between low performers (75%) who agreed with the statement *my belief in myself gets me through hard times* compared to 60% of high performing students.

- An 11 percentage point difference between high performers (93%) who agreed with the statement *when I'm in a difficult situation, I can usually find my way out of it* compared to 82% for low performers.

Reading literacy performance	Percentage of students who reported agree or strongly agree				
	I usually manage one way or another	I feel proud that I have accomplished things	I feel that I can handle many things at a time	My belief in myself gets me through hard times	When I'm in a difficult situation, I can usually find my way out of it
Low performers	89	89	72	75	82
Middle performers	95	93	73	64	87
High performers	97	96	77	60	93

FIGURE 11.10 Percentage of students who reported their agreement on aspects of self-efficacy, by reading literacy performance group

Figure 11.11 shows the relationship between self-efficacy (by quartiles) and reading literacy performance. For Australian students there was a very small positive relationship between self-efficacy and reading literacy performance ($r = 0.08$). Students who reported higher self-efficacy performed higher in reading literacy than students who reported lower self-efficacy.

On the self-efficacy index, students in the highest quartile scored 24 points on average higher than students in the lowest quartile. This score point difference was around three-quarters of a year of schooling.

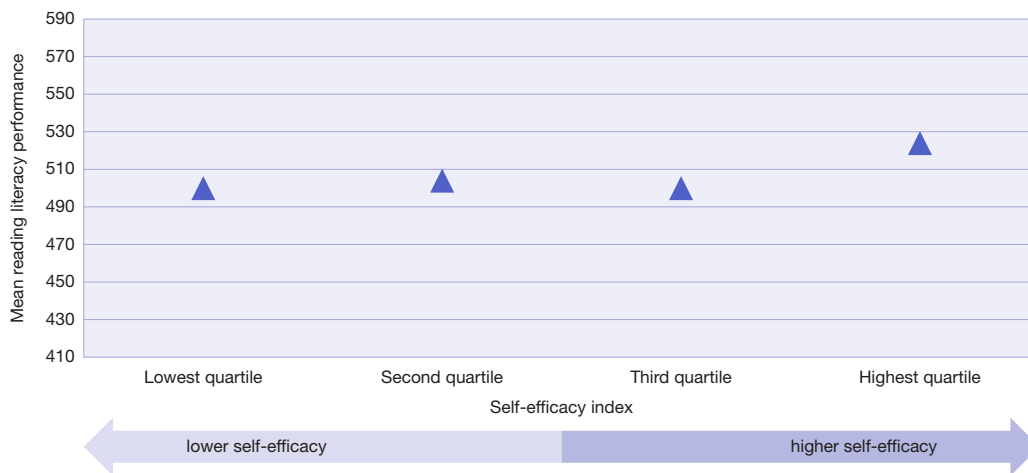


FIGURE 11.11 Relationship between self-efficacy and reading literacy performance, for Australia



Students' fear of failure

CHAPTER

12

While Chapter 11 focused on self-efficacy, the other side of the coin is fear of failure. Fear of failure is the emotional, cognitive, and behavioural reaction to the negative consequences people anticipate for failing to achieve a goal (Martin et al., 2003). Fear of failure at school can influence students' motivation to learn and negatively affect their attitude towards learning. According to Martin et al., (2003), fear of failure can play out in students either over-striving or being overly self-protective in terms of achievement.

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in students' fear of failure and how they vary by student characteristics. It also explores the relationship between students' fear of failure and reading literacy performance.

Key findings

- ➔ On average, Australian students reported similar levels of fear of failure to students in Ireland and New Zealand and greater fear of failure than students from the OECD countries.
- ➔ On average, about two-thirds of Australian students agreed or strongly agreed with the statements *when I am failing, this makes me doubt my plans for the future* and *when I am failing, I am afraid that I might not have enough talent*.
- ➔ On average, three-fifths of Australian students agreed or strongly agreed with *when I am failing, I worry about what others think of me*.
- ➔ Students in the Australian Capital Territory reported greater fear of failure than students across all jurisdictions, while students in Queensland, Victoria and Western Australia reported similar fear of failure.
- ➔ Students in independent schools had greater fear of failure than students in government schools, while Catholic schools reported similar fear of failure to students in government and independent schools.
- ➔ Female students reported greater fear of failure than male students.

- ➔ The least disadvantaged students reported greater fear of failure than the most disadvantaged students.
- ➔ Students in metropolitan schools reported greater fear of failure than students in provincial and remote schools, while students in provincial and remote schools reported similar levels of fear of failure.
- ➔ Non-Indigenous students reported greater fear of failure than Indigenous students.
- ➔ Australian-born, first-generation and foreign-born students reported similar levels of fear of failure.
- ➔ Students in the highest quartile of the fear of failure index scored on average 45 points higher (just over one and a quarter of a year of schooling) in reading literacy performance than students in the lowest quartile.

How is students' fear of failure measured in PISA?

In 2018, PISA asked students about their general fear of failure. Fear of failure was measured by asking students to report the extent to which they agreed with the following statements about themselves:

- ▶ *When I am failing, I worry about what others think of me.*
- ▶ *When I am failing, I am afraid that I might not have enough talent.*
- ▶ *When I am failing, this makes me doubt my plans for the future.*

Students were asked to respond to each of the statements on a four-point scale (*strongly disagree, disagree, agree, strongly agree*).

An index of fear of failure was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values in this index indicate that students reported greater fear of failure. Negative values on the index are indicative of students having lesser fear of failure.

Fear of failure in an international context

Figure 12.1 presents the mean index scores for Australia, the comparison countries, and the OECD average on the fear of failure index. Students in countries including Germany, Finland, Estonia, Denmark, Sweden, B-S-J-Z (China), Poland, the United States and Korea reported lesser fear of failure than Australian students, while students in Ireland and New Zealand reported similar levels of fear of failure to Australian students.

Students in Chinese Taipei reported the greatest levels of fear of failure, achieving the highest mean index of all countries, while Germany, reported the lowest mean index score. The mean index score of 0.23 for Australia was higher than that of the OECD average (-0.01).



Note: Data not available for Norway. Countries with the lowest mean score on the fear of failure index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 12.1 Fear of failure index, for Australia and comparison countries

Figure 12.2 shows the percentages of students who reported their level of agreement with statements about fear of failure as they applied to themselves.

- ▶ Sixty-two per cent of Australian students agreed³⁶ with the statement *when I am failing, I worry about what others think of me*. This percentage was similar for students from Canada and the United Kingdom. The percentages were higher for students in the nine comparison countries, including Chinese Taipei, Hong Kong (China), Macao (China) and B-S-J-Z (China), and lower for students in the seven remaining comparison countries, including Estonia, Germany, Finland and Sweden, and the OECD average.
- ▶ Sixty-four per cent of Australian students agreed with the statement *when I am failing, I am afraid that I might not have enough talent*. This percentage was similar for students in Ireland, New Zealand and the United Kingdom. The percentages were higher for students in Chinese Taipei, Macao (China), Japan, Singapore, Hong Kong (China), Korea and Canada, and lower for students in the eight remaining countries, including Germany, Finland, Estonia and B-S-J-Z (China), and the OECD average.
- ▶ Sixty-eight per cent of Australian students agreed with the statement *when I am failing, this makes me doubt my plans for the future*. This percentage was similar for students in Canada, Macao (China) and New Zealand. The percentages were higher for students in Singapore, Chinese Taipei, Hong Kong (China) and the United Kingdom, and lower for students in the 11 remaining countries, including Germany, Finland, Estonia and Denmark, and the OECD average.

36 For ease of reading, from this point onward 'agree' and 'strongly agree' will be referred to as 'agree'.

Country	Percentage of students who reported agree or strongly agree		
	When I am failing, I worry about what others think of me	When I am failing, I am afraid that I might not have enough talent	When I am failing, this makes me doubt my plans for the future
Germany	48	38	37
Finland	50	45	41
Estonia	46	48	45
Denmark	58	58	47
Sweden	53	56	53
B-S-J-Z (China)	78	53	51
Poland	54	57	58
United States	58	60	65
Korea	75	66	54
Ireland	64	63	65
Australia	62	64	68
New Zealand	65	63	68
Canada	62	65	68
United Kingdom	63	63	70
Japan	77	74	61
Hong Kong (China)	82	71	72
Macao (China)	80	78	66
Singapore	72	73	78
Chinese Taipei	89	84	77
OECD average	56	55	54

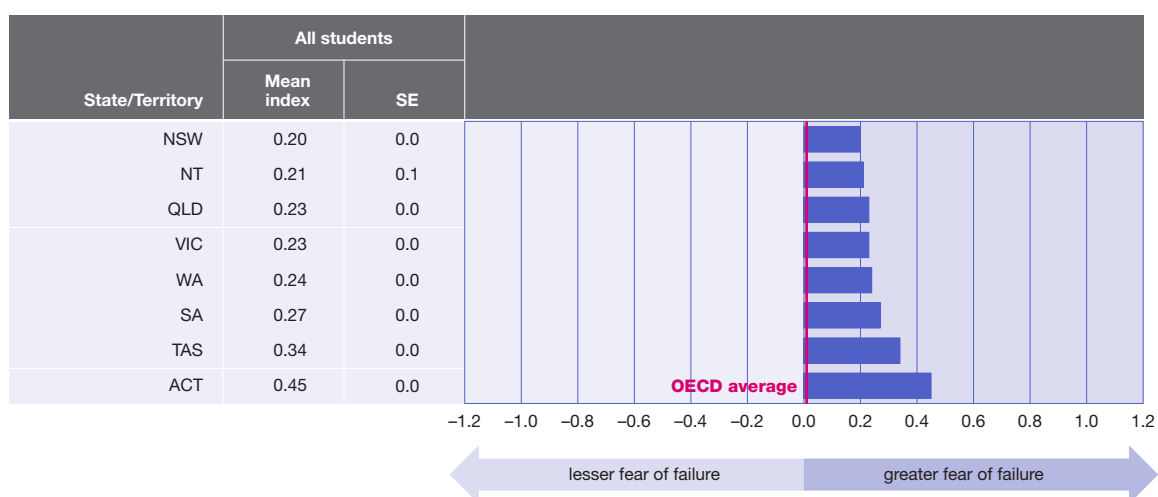
Note: Data not available for Norway. Countries are listed from the lowest to highest mean score on the fear of failure index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 12.2 Percentage of students who reported their agreement on aspects of fear of failure, for Australia and comparison countries

Fear of failure in a national context

Figure 12.3 shows the mean index scores for students in each of the Australian states and territories, and the OECD average on the fear of failure index. The mean index scores on the fear of failure index ranged from 0.20 in New South Wales to 0.45 in the Australian Capital Territory.

- ▶ On average, students in the Australian Capital Territory reported greater fear of failure than students across all jurisdictions, while all jurisdictions reported greater fear of failure than the OECD average.
- ▶ On average, students in Queensland, Victoria and Western Australia reported similar fear of failure.
- ▶ On average, students in New South Wales reported lesser fear of failure than students in South Australia and Tasmania.



Note: Jurisdictions with the lowest mean score on the fear of failure index are placed at the top of the figure and jurisdictions with highest mean score on the index are placed at the bottom.

FIGURE 12.3 Fear of failure index, by state and territory

Figure 12.4 presents the percentages of students who reported their agreement with each statement related to fear of failure, by jurisdiction.

- ▶ Fifty-nine per cent of students in the Northern Territory to 71% of students in the Australian Capital Territory agreed with the statement *when I am failing, I worry what others think of me* and similarly, this result was mirrored for students who agreed with the statement *when I am failing, I am afraid that I might not have enough talent*.
- ▶ Sixty-four per cent of students in the Northern Territory to 72% of students in the Australian Capital Territory agreed with the statement *when I am failing, this makes me doubt my plans for the future*.

State/Territory	Percentage of students who reported agree or strongly agree		
	When I am failing, I worry about what others think of me	When I am failing, I am afraid that I might not have enough talent	When I am failing, this makes me doubt my plans for the future
NSW	60	64	66
NT	59	59	64
QLD	61	63	69
VIC	62	63	68
WA	61	65	70
SA	64	66	69
TAS	67	67	67
ACT	71	71	72

Note: Jurisdictions are listed from the lowest to highest mean score on the fear of failure index.

FIGURE 12.4 Percentage of students who reported their agreement on aspects of fear of failure, by state and territory

Figure 12.5 shows the mean index score on the fear of failure index for each school sector. Students in government schools reported lesser fear of failure than students in independent schools. Students in Catholic schools reported similar fear of failure to students in both government schools and independent schools.

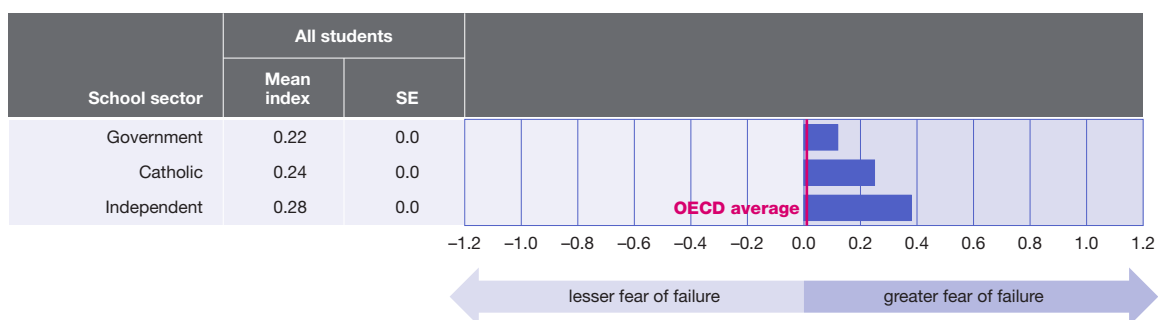


FIGURE 12.5 Fear of failure index, by school sector

Figure 12.6 shows the extent to which students in each school sector agreed with each fear of failure statement.

- ▶ A higher percentage of students in independent schools agreed with the statement *when I am failing, I worry about what others think of me* than students in government and Catholic schools.
- ▶ A higher percentage of students in independent schools than students in government schools agreed with the statement *when I am failing, I am afraid that I might not have enough talent*.
- ▶ Irrespective of school sector, students reported similar percentages of agreement to the statement *when I am failing, this makes me doubt my plans for the future*.

School sector	Percentage of students who reported agree or strongly agree		
	When I am failing, I worry about what others think of me	When I am failing, I am afraid that I might not have enough talent	When I am failing, this makes me doubt my plans for the future
Government	60	63	68
Catholic	62	65	68
Independent	66	66	68

FIGURE 12.6 Percentage of students who reported their agreement on aspects of fear of failure, by school sector

Fear of failure for different demographic groups in a national context

Figure 12.7 shows the mean index scores on the fear of failure index for students from different demographic groups.

- ▶ Female students reported significantly greater fear of failure than male students.
- ▶ The least disadvantaged students reported greater fear of failure than the most disadvantaged students.
- ▶ Students in metropolitan schools reported greater fear of failure than students from provincial and remote schools, while students in provincial and remote schools reported similar levels of fear of failure.
- ▶ Non-Indigenous students reported greater fear of failure than their Indigenous peers.
- ▶ Irrespective of immigrant background, students reported similar fear of failure.

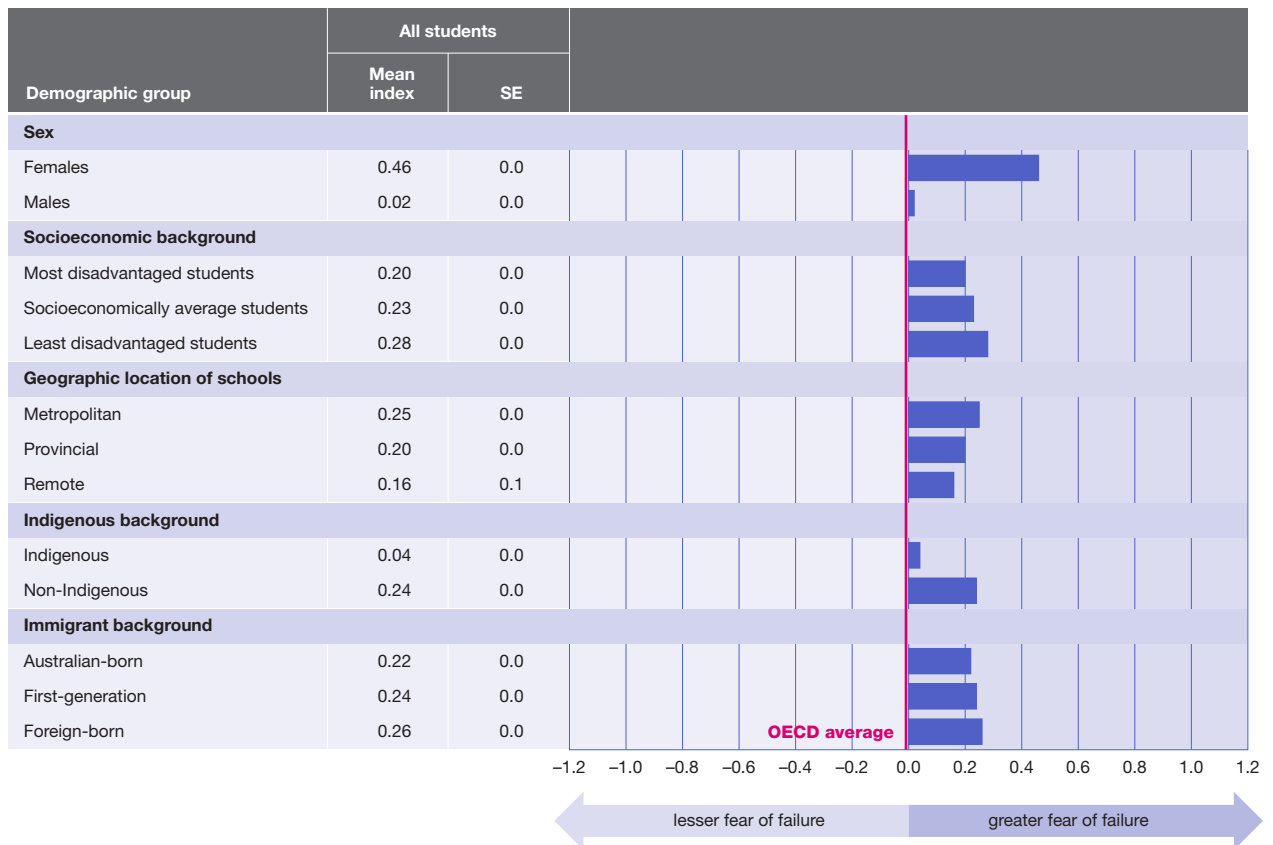


FIGURE 12.7 Fear of failure index, for different demographic groups

Figure 12.8 presents the percentages of students who agreed with each fear of failure statement for the different demographic groups. The largest percentage point differences were as follows:

- ▶ A higher percentage of female students (76%) than male students (60%) agreed with the statement *when I am failing, this makes me doubt my plans for the future*. Similarly, females (72%) compared to males (56%) agreed with *when I am failing, I am afraid that I might not have enough talent*.
- ▶ Sixty-four per cent of the least disadvantaged students agreed with the statement *when I am failing, I worry about what others think of me* compared to 60% of the most disadvantaged students, while 65% of least disadvantaged students agreed with *when I am failing, I am afraid that I might not have enough talent* compared to 62% of the most disadvantaged students.
- ▶ Sixty-four per cent of students in metropolitan schools agreed with the statement *when I am failing, I am afraid that I might not have enough talent*, compared to 62% of students in provincial schools.
- ▶ Sixty-two per cent of non-Indigenous students agreed with the statement *when I am failing, I worry about what others think of me* compared to 53% of Indigenous students, while 64% of non-Indigenous students agreed with *when I am failing, I am afraid that I might not have enough talent* compared to 55% of Indigenous students.
- ▶ A lower percentage of Australian-born students (67%) agreed with the statement *when I am failing this makes me doubt my plans for the future* compared to first-generation born students (69%) and foreign-born students (70%).

Demographic group	Percentage of students who reported agree or strongly agree		
	When I am failing, I worry about what others think of me	When I am failing, I am afraid that I might not have enough talent	When I am failing, this makes me doubt my plans for the future
Sex			
Females	68	72	76
Males	56	56	60
Socioeconomic background			
Most disadvantaged students	60	62	68
Socioeconomically average students	62	64	68
Least disadvantaged students	64	65	68
Geographic location of schools			
Metropolitan	62	64	68
Provincial	62	62	67
Remote	58	62	70
Indigenous background			
Indigenous	53	55	62
Non-Indigenous	62	64	68
Immigrant background			
Australian-born	62	63	67
First-generation	62	65	69
Foreign-born	62	65	70

FIGURE 12.8 Percentage of students who reported their agreement on aspects of fear of failure, for different demographic groups

Fear of failure and reading literacy performance

Figure 12.9 shows that the high performers reported greater fear of failure than the middle performers, who in turn reported greater fear of failure than the low performers.

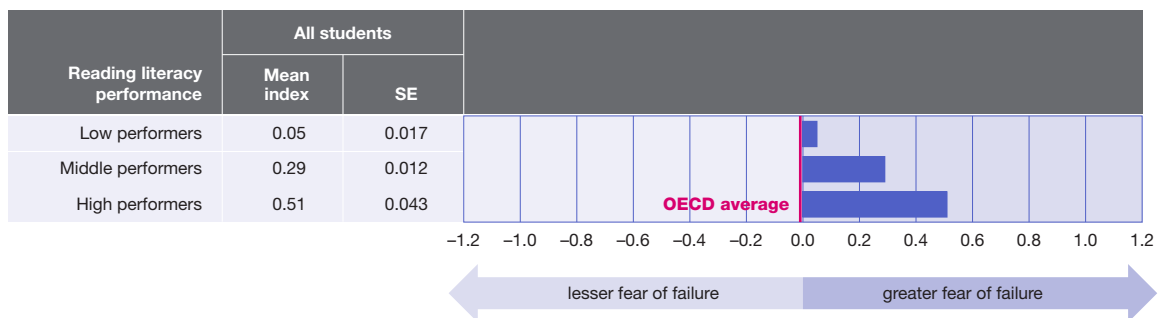


FIGURE 12.9 Fear of failure index, by reading literacy performance group for Australia

Figure 12.10 shows overall, high performers reported higher percentages of agreement for each fear of failure statement. The largest difference observed between the reading literacy performers were:

- ▶ A 20 percentage point difference between low performers (55%) who agreed with the statement *when I am failing, I worry about what others think of me* compared to 75% of high performing students.
- ▶ An 18 percentage point difference between low performers (57%) who agreed with the statement *when I am failing, I am afraid that I might not have enough talent* compared to 75% of high performers.
- ▶ A 13 percentage point difference between low performers (63%) who agreed with the statement *when I am failing, this makes me doubt my plans for the future* compared to 76% of high performers.

Reading literacy performance	Percentage of students who reported agree or strongly agree		
	When I am failing, I worry about what others think of me	When I am failing, I am afraid that I might not have enough talent	When I am failing, this makes me doubt my plans for the future
Low performers	55	57	63
Middle performers	63	66	69
High performers	75	75	76

FIGURE 12.10 Percentage of students who reported their agreement on aspects of fear of failure, by reading literacy performance group

Figure 12.11 shows the relationship between fear of failure (by quartiles) and reading literacy performance. For Australian students there was a very small positive relationship between fear of failure and reading literacy performance ($r = 0.15$). Students who reported greater fear of failure performed higher in reading literacy than students who reported lesser fear of failure.

On the fear of failure index, students in the highest quartile scored 45 points on average higher than students in the lowest quartile. This score point difference was equal to just over one and a quarter years of schooling.

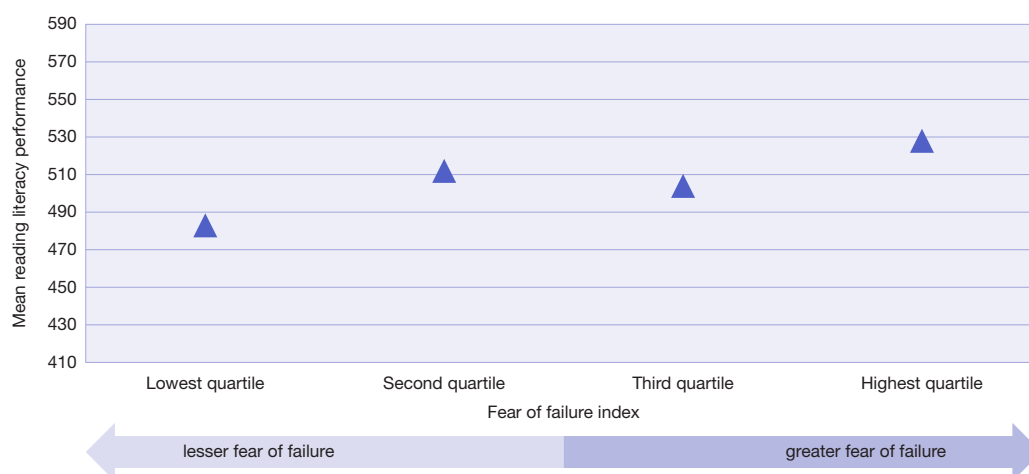


FIGURE 12.11 Relationship between fear of failure and reading literacy performance, for Australia



Growth mindset

CHAPTER

13

Growth mindset is the belief that one's intelligence can be grown or developed with persistence, effort, and a focus on learning. Individuals with a growth mindset believe they are capable of learning nearly anything if they work hard and accept failures and challenges as opportunities to grow. Alternatively, students who hold the belief they have a fixed mindset, believe their basic qualities, like their intelligence or talent, are simply fixed traits. They also believe that talent alone creates success — without effort (Rattan, et al., 2015).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in students' belief in a growth mindset and how this belief varies by student characteristics. It also explores the relationship between holding a growth mindset and reading literacy performance.

Key findings

- On average, over two-thirds of Australian students disagreed or strongly disagreed with the statement *your intelligence is something about you that you can't change very much*, which was higher than the three-fifths of students from across the OECD countries.
- Nearly three-quarters of students in the Australian Capital Territory reported a stronger growth mindset, compared to two-thirds of students in Tasmania.
- Nearly three-quarters of students in independent schools reported a stronger growth mindset, in comparison to two-thirds of students in government schools.
- Female students reported a stronger growth mindset than male students.
- The least disadvantaged students reported a stronger growth mindset than the most disadvantaged students.
- Students in metropolitan schools reported a stronger growth mindset than students in provincial and remote schools.
- Non-Indigenous students reported a stronger growth mindset than Indigenous students.

- ➔ First-generation students reported a stronger growth mindset than Australian-born and foreign-born students.
- ➔ Australian students who reported a stronger growth mindset scored 71 points higher (over two years of schooling) in reading literacy than students who agreed or strongly agreed with the statement, thereby reflecting they had a fixed mindset.

How is growth mindset measured in PISA?

A growth mindset, or incremental theory of intelligence, is defined as the belief that someone's ability and intelligence can develop over time. This is in contrast to a fixed mindset, or the belief that someone is born with a certain degree of ability and intelligence that is nearly unaltered by experience (OECD, 2019).

The extent to which students believe in a growth mindset was measured by asking students the extent to which they agreed with the following statement:

- ▶ *Your intelligence is something about you that you can't change very much.*

Students were asked to respond to the statement on a four-point scale (*strongly disagree, disagree, agree, strongly agree*).

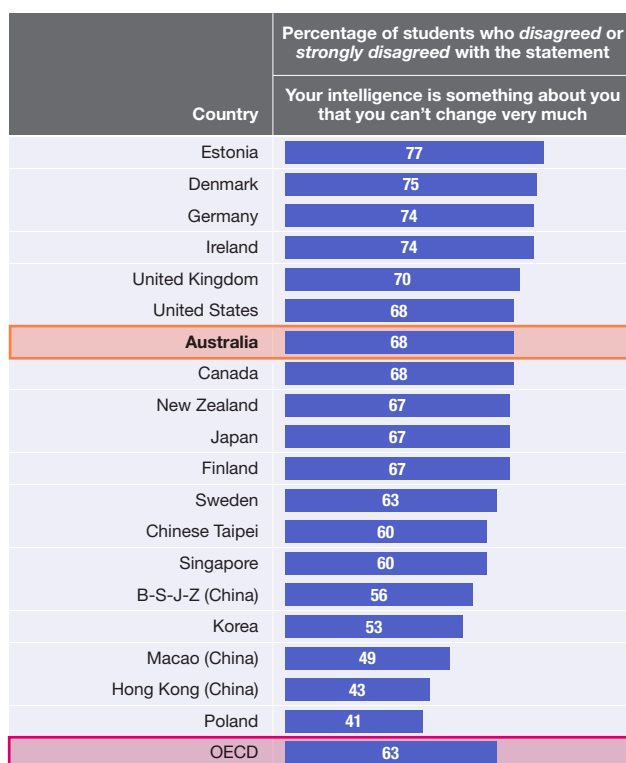
Students who reported they disagreed or strongly disagreed with the statement are considered to have a stronger growth mindset than students who agreed or strongly agreed with the statement. Students who agreed or strongly agreed³⁷ with the statement demonstrate a belief that they have a fixed mindset.

Growth mindset in an international context

Figure 13.1 shows the percentage of students who reported they disagreed with the statement *your intelligence is something about you that you can't change very much*.

- ▶ Sixty-eight per cent of Australian students reported they disagreed with the statement *your intelligence is something about you that you can't change very much*. This percentage was similar for students reporting they believe in a growth mindset in Canada, Finland, Japan, New Zealand and the United States.
- ▶ A higher percentage of students in Estonia, Denmark, Germany, Ireland and the United Kingdom, believed in a growth mindset than Australian students.
- ▶ A lower percentage of students from the eight comparison countries (Poland, Hong Kong (China), Macao (China), Korea, B-S-J-Z (China), Singapore, Chinese Taipei and Sweden), and the students from across the OECD countries reported they believed in a growth mindset than Australian students.

37 For ease of reading, from this point onward 'disagree' or 'strongly disagree' and 'agree' or 'strongly agree' will be referred to as 'disagree' and 'agree'.



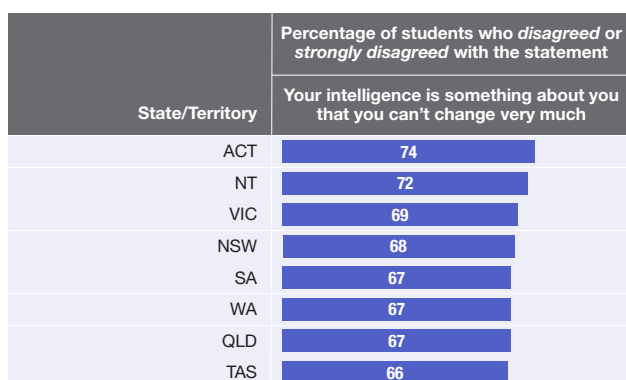
Note: Data not available for Norway. Countries are ranked in descending order with students disagreeing with the statement placed at the top of the figure and countries reporting the lowest percentages of disagreement placed at the bottom. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 13.1 Percentage of students who believe in a growth mindset, for Australia and comparison countries

Growth mindset in a national context

Figure 13.2 presents the percentages of students who disagreed with the statement *your intelligence is something about you that you can't change very much*, by jurisdiction.

- ▶ Seventy-four per cent of students in the Australian Capital Territory believed in a growth mindset. This percentage was higher than for students in all jurisdictions with the exception of the Northern Territory where a similar percentage of students believed in a stronger growth mindset.
- ▶ Australian students in all jurisdictions except students from Tasmania reported believing in a stronger growth mindset than students across all OECD countries.



Note: Jurisdictions with the highest percentage of students disagreeing with the statement are placed at the top of the figure and jurisdictions with the lowest percentages of students disagreeing with the statement are placed at the bottom.

FIGURE 13.2 Percentage of students who believe in a growth mindset, by state and territory

Figure 13.3 shows the percentage of students by school sector who disagreed with the statement that *your intelligence is something about you that you can't change very much*.

Students in independent schools believed in a growth mindset more so than students in government schools, while students in Catholic schools believed in a growth mindset more so than students in government schools. Students in Catholic and independent schools reported no differences in their belief in a growth mindset, that is, that intelligence is something that they cannot change.

School sector	Percentage of students who <i>disagreed or strongly disagreed</i> with the statement
	Your intelligence is something about you that you can't change very much
Government	65
Catholic	70
Independent	73

FIGURE 13.3 Percentage of students who believe in a growth mindset, by school sector

Growth mindset for different demographic groups in a national context

Figure 13.4 presents the percentages of students who disagreed with the statement *your intelligence is something about you that you can't change very much*, for the different demographic groups.

- ▶ Female students believed in a growth mindset more so than male students (5 percentage point difference).
- ▶ The least disadvantaged students believed in a growth mindset to a greater extent than the most disadvantaged students (19 percentage point difference).
- ▶ Students in metropolitan schools believed in a growth mindset to a greater extent than students in provincial and remote schools.
- ▶ Non-Indigenous students believed in a growth mindset more so than Indigenous students (13 percentage point difference).
- ▶ First-generation born students believed in a growth mindset more so than Australian-born students and foreign-born students, while there was no difference in the growth mindset beliefs of Australian-born and foreign-born students.

Demographic group	Percentage of students who <i>disagreed</i> or <i>strongly disagreed</i> with the statement
	Your intelligence is something about you that you can't change very much
Sex	
Females	70
Males	65
Socioeconomic background	
Most disadvantaged students	59
Socioeconomically average students	68
Least disadvantaged students	78
Geographic location of schools	
Metropolitan	69
Provincial	65
Remote	60
Indigenous background	
Indigenous	55
Non-Indigenous	68
Immigrant background	
Australian-born	68
First-generation	70
Foreign-born	66

FIGURE 13.4 Percentage of students who believe in a growth mindset, for different demographic groups

Growth mindset and reading literacy performance

Figure 13.5 shows that low performers' belief in a growth mindset was substantially lower than that of middle and high performers.

- ▶ 47% of low performers agreed with the statement *your intelligence is something about you that you can't change very much*. This reflects a higher percentage of low performers held a fixed mindset, thus holding the belief that the degree of ability and intelligence they are born with is unaltered by experience.
- ▶ In excess of 75% of middle performers and 80% of high performers held strong beliefs in a growth mindset.

Reading literacy performance	Percentage of students who <i>disagreed</i> or <i>strongly disagreed</i> with the statement
	Your intelligence is something about you that you can't change very much
Low performers	47
Middle performers	76
High performers	83

FIGURE 13.5 Percentage of students who believe in a growth mindset, by reading literacy performance group

Figure 13.6 shows the relationship between growth mindset (by level of agreement) and reading literacy performance. Australian students who disagreed with the statement *your intelligence is something about you that you can't change very much* scored 71 points higher in reading literacy than students who agreed with the statement. This score point difference was equal to over two years of schooling.

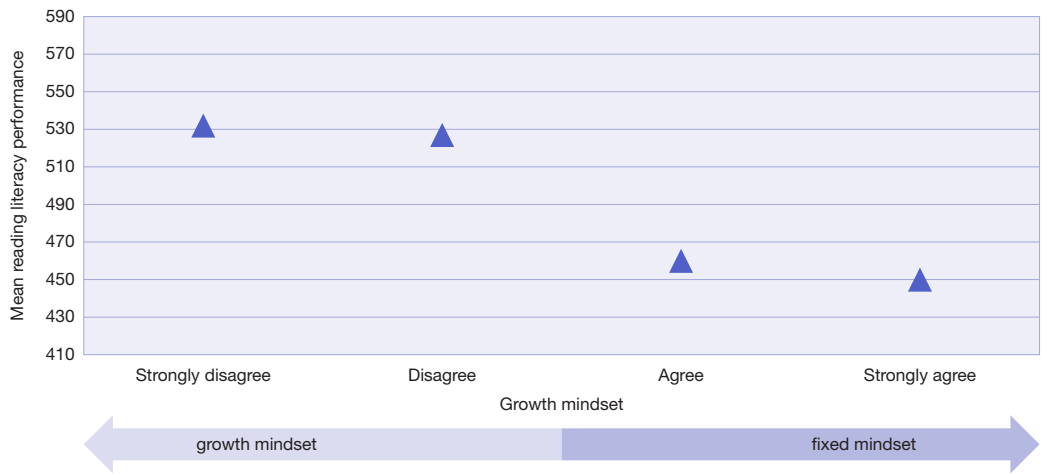


FIGURE 13.6 Relationship between growth mindset and reading literacy performance, for Australia



Teacher enthusiasm

CHAPTER

14

Teacher enthusiasm relates to the pleasure that teachers take in teaching a subject more generally and encompasses the ideas of enjoyment, passion, and experience (OECD, 2019). According to Frenzel et al., (2019) a definition of teacher enthusiasm covers both how teachers feel about teaching a subject (experienced enthusiasm) and how they express these feelings to students (displayed enthusiasm).

This chapter examines teacher enthusiasm in English classes as perceived by students and focuses on the similarities and differences between countries, the Australian jurisdictions and different demographic groups and how they vary by student characteristics. It also explores the relationship between students' perceptions of teacher enthusiasm and reading literacy performance.

Key findings

- ➔ On average, Australian students perceived similar levels of teacher enthusiasm in their English classes to students in New Zealand, the United Kingdom and the United States, and higher levels of teacher enthusiasm in their language of instruction classes than the OECD average.
- ➔ On average, over four-fifths of Australian students agreed or strongly agreed with the statements *it was clear that the teacher likes to deal with the topic of the lesson* and *the teacher showed enjoyment in teaching*. Over three-quarters of students agreed or strongly agreed with *it was clear to me that the teacher liked teaching us*, while three-fifths of Australian students agreed or strongly agreed with *the enthusiasm of the teacher inspired me*.
- ➔ Students in the Australian Capital Territory reported similar levels of perceived teacher enthusiasm in their English classes to students in Queensland and South Australia, and higher levels than students in the other jurisdictions.
- ➔ Students in independent schools perceived higher levels of teacher enthusiasm in their English classes than students in Catholic schools, who in turn perceived higher levels of teacher enthusiasm than students in government schools.

- ➔ Female students perceived higher levels of teacher enthusiasm in their English classes than male students.
- ➔ The least disadvantaged students perceived higher levels of teacher enthusiasm in their English classes than the most disadvantaged students.
- ➔ Students in metropolitan, provincial and remote schools perceived similar levels of teacher enthusiasm in their English classes.
- ➔ Non-Indigenous students perceived higher levels of teacher enthusiasm in their English classes than Indigenous students.
- ➔ Australian-born, first-generation and foreign-born students perceived similar levels of teacher enthusiasm in their English classes.
- ➔ Students in the highest quartile of the teacher enthusiasm index scored on average 44 points higher (around one and one-third years of schooling) in reading literacy performance than students in the lowest quartile.

How is teacher enthusiasm measured in PISA?

In 2018, PISA asked students about how they perceived the enthusiasm of their teachers in their two language-of-instruction lessons prior to sitting the PISA test.³⁸ Teacher enthusiasm was measured by asking students to report the extent to which they agreed with the following statements as they applied to their English classes:

- ▶ *It was clear to me that the teacher liked teaching us.*
- ▶ *The enthusiasm of the teacher inspired me.*
- ▶ *It was clear that the teacher likes to deal with the topic of the lesson, and*
- ▶ *The teacher showed enjoyment in teaching.*

Students were asked to respond to each of the statements on a four-point scale (*strongly disagree, disagree, agree, strongly agree*).

An index of teacher enthusiasm was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values in this index indicate that students perceived teachers showed higher enthusiasm. Negative values on the index are indicative of students perceiving teachers showed lower enthusiasm.

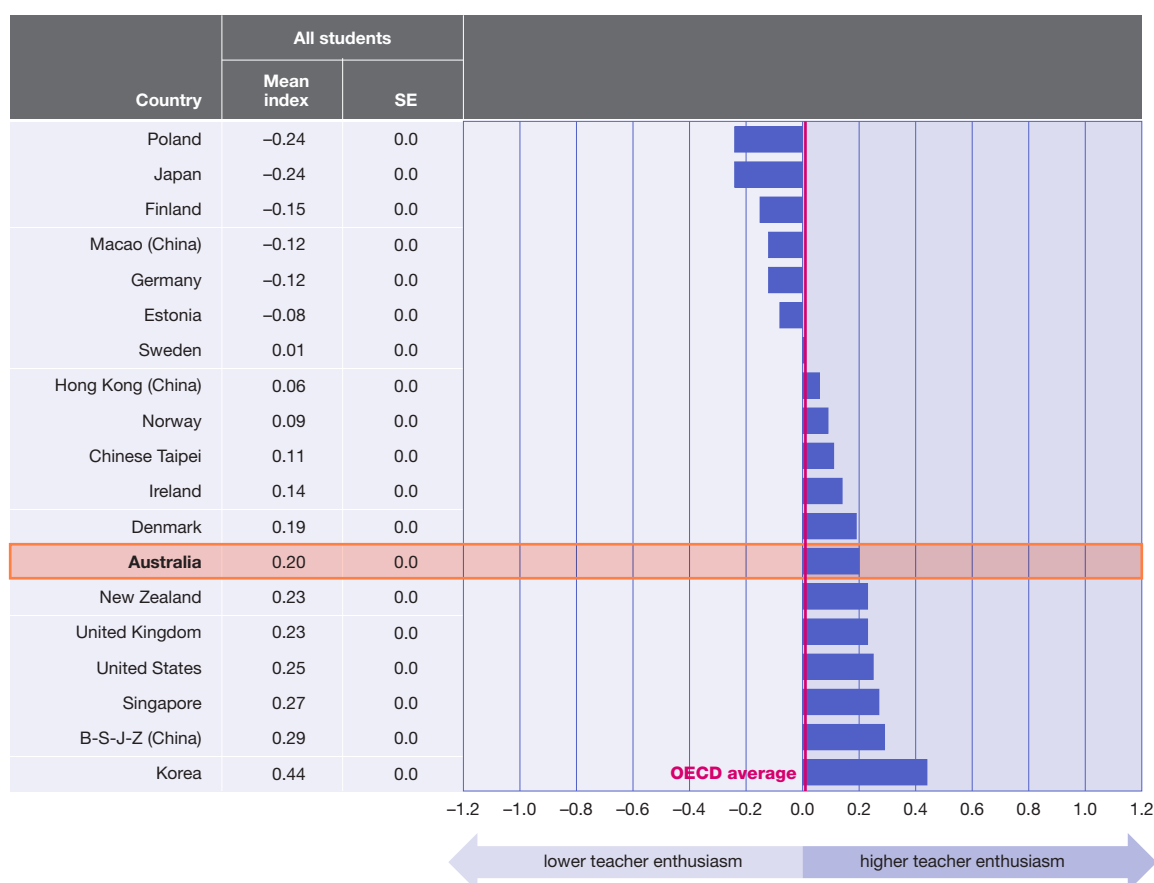
Teacher enthusiasm in an international context

Figure 14.1 presents the mean index scores for Australia, the comparison countries, and the OECD average on the teacher enthusiasm index.

Students in countries including Poland, Japan, Finland, Macao (China), Germany, Sweden, Norway, Ireland, and the OECD average perceived their English teachers to be lower in enthusiasm than reported by Australian students, while students in New Zealand, the United Kingdom and the United States perceived teacher enthusiasm to be similar to levels reported by Australian students.

Students from Korea perceived teacher enthusiasm to be the highest, achieving the highest mean index of all countries, while Poland and Japan, reported the lowest mean index score. The mean index score of 0.20 for Australia was higher than that of the OECD average (0.01).

³⁸ For ease of reading, from this point onward 'teacher enthusiasm in language-of-instruction' will be referred to as 'teacher enthusiasm in teaching English', except for reporting international results.



Note: Data not available for Canada. Countries with the lowest mean score on the teacher enthusiasm index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 14.1 Teacher enthusiasm index, for Australia and comparison countries

Figure 14.2 shows the percentage of students who reported their level of agreement with statements about teacher enthusiasm in teaching English.

- ▶ Seventy-eight per cent of Australian students agreed³⁹ with the statement *it was clear to me that the teacher liked teaching us*. This percentage was similar to the percentage of students in Norway, Singapore and the United Kingdom. The percentages were higher for students in Korea, Denmark, the United States, New Zealand and Hong Kong (China), and lower for students in the 10 remaining comparison countries, including Japan, Poland, Macao (China) and Estonia, and the OECD average.
- ▶ Sixty-two per cent of Australian students agreed with the statement *the enthusiasm of the teacher inspired me*. This percentage was similar for students in New Zealand and Hong Kong (China). The percentage was higher for students from Korea, B-S-J-Z (China), Singapore, the United States, Chinese Taipei and the United Kingdom, and lower for students in the 10 remaining comparison countries, including Germany, Finland, Poland and Sweden, and the OECD average.
- ▶ Eighty-six per cent of Australian students agreed with the statement *it was clear that the teacher likes to deal with the topic of the lesson*. This percentage was similar for students in New Zealand, Denmark, Ireland, the United Kingdom, the United States and Singapore. The percentages were higher for students in Korea, and lower for students in the 11 remaining comparison countries, including Japan, Macao (China), Germany and Poland, and the OECD average.
- ▶ Eighty-two per cent of Australian students agreed with the statement *the teacher showed enjoyment in teaching*. This percentage was similar for students in the United Kingdom, New

39 For ease of reading, from this point onward 'agree' and 'strongly agree' will be referred to as 'agree'.

Zealand, Denmark, Hong Kong (China), Ireland, and the United States. The percentages were higher for students in Korea, B-S-J-Z (China), Chinese Taipei and Singapore who agreed with the statement, and lower for students in the eight remaining comparison countries, including Poland, Estonia, Finland and Japan, and the OECD average.

Country	Percentage of students who reported <i>agree</i> or <i>strongly agree</i>			
	It was clear to me that the teacher liked teaching us	The enthusiasm of the teacher inspired me	It was clear that the teacher likes to deal with the topic of the lesson	The teacher showed enjoyment in teaching
Poland	68	49	72	59
Japan	63	52	56	70
Finland	71	43	79	69
Macao (China)	68	60	68	79
Germany	70	36	72	72
Estonia	69	60	77	68
Sweden	73	52	75	78
Hong Kong (China)	80	62	79	83
Norway	80	53	81	77
Chinese Taipei	72	65	79	86
Ireland	76	60	86	83
Denmark	83	57	86	83
Australia	78	62	86	82
New Zealand	80	63	87	82
United Kingdom	79	64	86	81
United States	82	65	86	83
Singapore	79	72	85	84
B-S-J-Z (China)	76	76	82	87
Korea	89	82	89	88
OECD average	73	55	79	74

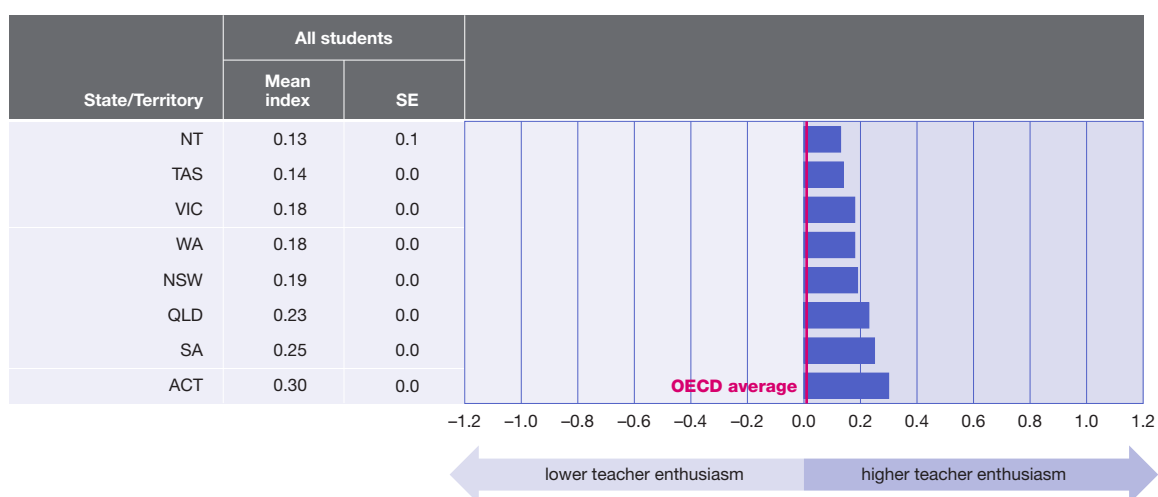
Note: Data not available for Canada. Countries are listed from the lowest to highest mean score on the teacher enthusiasm index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 14.2 Percentage of students who perceived their language of instruction teacher was enthusiastic, for Australia and comparison countries

Teacher enthusiasm in a national context

Figure 14.3 shows the mean index scores for students in each of the Australian states and territories, and the OECD average on the teacher enthusiasm index. The mean index scores on the teacher enthusiasm index ranged from 0.13 in the Northern Territory to 0.30 in the Australian Capital Territory.

- ▶ On average, students in the Australian Capital Territory perceived their English teachers to show higher enthusiasm than students across all jurisdictions with the exception of students in Queensland and South Australia and the OECD average.
- ▶ On average, students in the Northern Territory and Tasmania, while reporting a positive score on the teacher enthusiasm index, perceived their English teachers to show lower enthusiasm than students in the Australian Capital Territory.



Note: Jurisdictions with the lowest mean score on the teacher enthusiasm index are placed at the top of the figure and jurisdictions with highest mean score on the index are placed at the bottom.

FIGURE 14.3 Teacher enthusiasm index, by state and territory

Figure 14.4 presents the percentages of students who reported their agreement with each statement related to teacher enthusiasm, by jurisdiction.

- ▶ Seventy-four per cent of students in the Northern Territory to 81% of students in South Australia agreed with the statement *it was clear to me that the teacher liked teaching us*.
- ▶ Fifty-eight per cent of students in the Northern Territory to 65% of students in the Australian Capital Territory agreed with the statement *the enthusiasm of the teacher inspired me*.
- ▶ Eighty-two per cent of students in the Northern Territory to 90% of students in the Australian Capital Territory agreed with the statement *it was clear that the teacher likes to deal with the topic of the lesson*.
- ▶ Seventy-seven per cent of students in the Northern Territory to 85% of students in the Australian Capital Territory agreed with the statement *the teacher showed enjoyment in teaching*.

State/Territory	Percentage of students who reported <i>agree or strongly agree</i>			
	It was clear to me that the teacher liked teaching us	The enthusiasm of the teacher inspired me	It was clear that the teacher likes to deal with the topic of the lesson	The teacher showed enjoyment in teaching
NT	74	58	82	77
TAS	80	62	85	81
VIC	78	60	85	82
WA	78	61	87	82
NSW	78	63	86	81
QLD	79	64	87	83
SA	81	64	87	83
ACT	80	65	90	85

Note: Jurisdictions are listed from the lowest to highest mean score on the teacher enthusiasm index.

FIGURE 14.4 Percentage of students who perceived their English teacher was enthusiastic, by state and territory

Figure 14.5 shows the mean index score on the teacher enthusiasm index for each school sector. Students in government schools reported perceiving their English teachers showed lower teacher enthusiasm than reported by students in Catholic schools and independent schools. Students in Catholic schools reported higher levels of teacher enthusiasm in government schools, but lower levels than reported by students in independent schools.

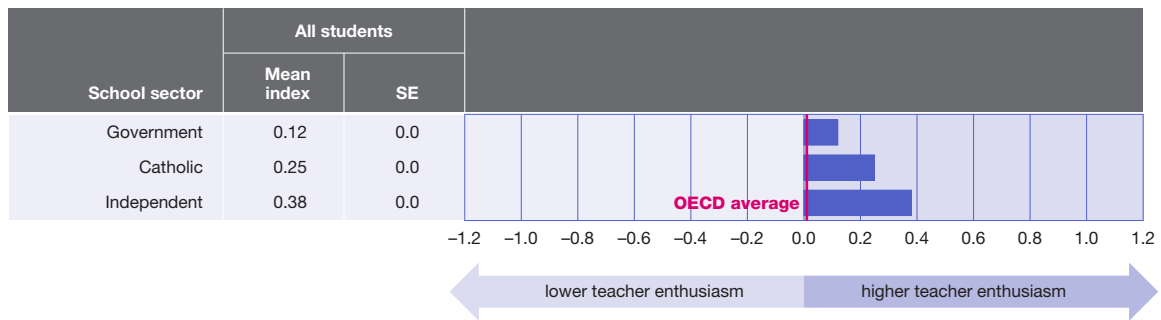


FIGURE 14.5 Teacher enthusiasm index, by school sector

Figure 14.6 shows the extent to which students in each school sector agreed with each teacher enthusiasm statement.

- ▶ A higher percentage of students in independent schools agreed with the statement *it was clear to me that the teacher liked teaching us* than students in government and Catholic schools.
- ▶ A higher percentage of students in independent schools agreed with the statement *the enthusiasm of the teacher inspired me* than students in government schools.
- ▶ A higher percentage of students in independent schools agreed with the statements *it was clear that the teacher likes to deal with the topic of the lesson* and *the teacher showed enjoyment in teaching* than students in government and Catholic schools.

School sector	Percentage of students who reported <i>agree or strongly agree</i>			
	It was clear to me that the teacher liked teaching us	The enthusiasm of the teacher inspired me	It was clear that the teacher likes to deal with the topic of the lesson	The teacher showed enjoyment in teaching
Government	76	60	84	80
Catholic	80	64	88	83
Independent	83	66	90	86

FIGURE 14.6 Percentage of students who perceived their English teacher was enthusiastic, by school sector

Teacher enthusiasm for different demographic groups in a national context

Figure 14.7 shows the mean index scores on the teacher enthusiasm index for students from different demographic groups.

- ▶ Female students reported significantly higher teacher enthusiasm than male students.
- ▶ The least disadvantaged students perceived teacher enthusiasm to be higher than did the most disadvantaged students.
- ▶ Students in metropolitan, provincial and remote schools reported perceiving similar higher levels of teacher enthusiasm.
- ▶ Non-Indigenous students perceived higher levels of teacher enthusiasm in their English classes than Indigenous students.
- ▶ Irrespective of immigrant background, students reported similar levels of teacher enthusiasm.

Demographic group	Percentage of students who reported <i>agree</i> or <i>strongly agree</i>			
	It was clear to me that the teacher liked teaching us	The enthusiasm of the teacher inspired me	It was clear that the teacher likes to deal with the topic of the lesson	The teacher showed enjoyment in teaching
Sex				
Females	80	64	86	83
Males	77	60	86	81
Socioeconomic background				
Most disadvantaged students	76	59	83	80
Socioeconomically average students	78	62	86	81
Least disadvantaged students	81	66	89	85
Geographic location of schools				
Metropolitan	78	62	86	82
Provincial	79	62	86	82
Remote	75	58	85	78
Indigenous background				
Indigenous	76	61	83	79
Non-Indigenous	78	62	86	82
Immigrant background				
Australian-born	78	61	86	82
First-generation	78	63	86	82
Foreign-born	80	65	88	82

FIGURE 14.8 Percentage of students who perceived their English teacher was enthusiastic, for different demographic groups

Teacher enthusiasm and reading literacy performance

Figure 14.9 shows that the high performers reported they perceived their teachers showed higher teacher enthusiasm than the middle performers, who in turn reported higher teacher enthusiasm than the low performers.

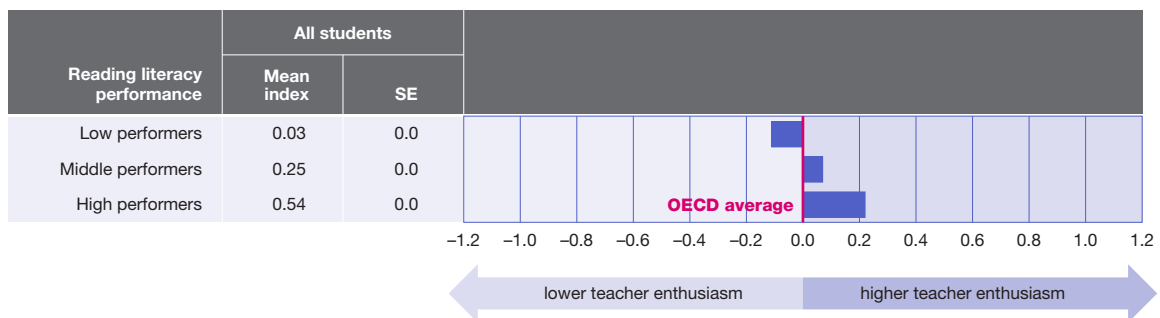


FIGURE 14.9 Teacher enthusiasm index, by reading literacy performance group for Australia

Figure 14.10 shows overall, high performers reported higher percentages of agreement for each teacher enthusiasm statement. The largest differences observed between the reading literacy performers were:

- ▶ a 9 percentage point difference between low performers (75%) who agreed with the statement *when it was clear to me that the teacher liked teaching us* compared to 84% of high performers.
- ▶ an 8 percentage point difference between low performers (62%) who agreed with the statement *the enthusiasm of the teacher inspired me* compared to 70% of high performers.
- ▶ a 9 percentage point difference between low performers (82%) who agreed with the statement *it was clear that the teacher likes to deal with the topic of the lesson* compared to 91% of high performers.

- ▶ a 14 percentage point difference between low performers (77%) who agreed with the statement *the teacher showed enjoyment in teaching* compared to 91% of high performing students.

Reading literacy performance	Percentage of students who reported <i>agree or strongly agree</i>			
	It was clear to me that the teacher liked teaching us	The enthusiasm of the teacher inspired me	It was clear that the teacher likes to deal with the topic of the lesson	The teacher showed enjoyment in teaching
Low performers	75	62	82	77
Middle performers	80	62	88	84
High performers	84	70	91	91

FIGURE 14.10 Percentage of students who perceived their English teacher was enthusiastic, by reading literacy performance group

Figure 14.11 shows the relationship between teacher enthusiasm (by quartiles) and reading literacy performance. For Australian students there was a very small positive relationship between teacher enthusiasm and reading literacy performance ($r = 0.15$). Students who reported they agreed their English teachers demonstrated higher teacher enthusiasm performed higher in reading literacy than students who reported perceiving their English teachers to show lower teacher enthusiasm.

On the teacher enthusiasm index, students in the highest quartile scored 44 points on average higher than students in the lowest quartile. This score point difference was equal to around one and a third years of schooling.

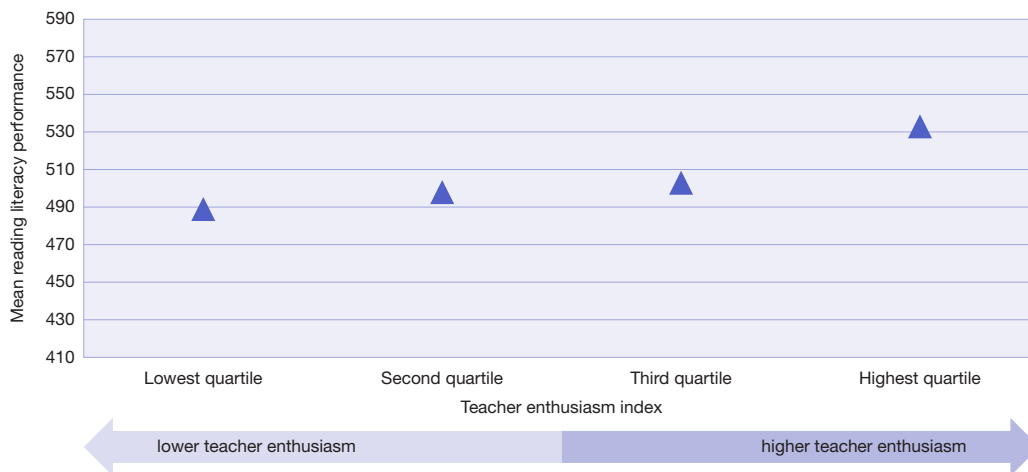


FIGURE 14.11 Relationship between teacher enthusiasm and reading literacy performance, for Australia



Teacher support

CHAPTER

15

The teacher-student relationship plays an important part in creating a positive learning environment. Students need to know that teachers care and are concerned about them (Lei, Cui & Chiu, 2018; Klem & Connell, 2004). Support from teachers is associated with higher achievement (Košir & Tement, 2013; Malecki & Demaray, 2006). Teacher support is also an important factor contributing to the success of students from disadvantaged backgrounds (Becker & Luther, 2002).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in students' perception of teacher support, and how they vary by student characteristics. It also explores the relationship between teacher support and reading literacy performance.

Key findings

- On average, Australian students reported similar levels of teacher support to students in New Zealand, Singapore and Finland and more teacher support than students from the OECD countries.
- On average, over three-quarters of Australian students reported that in most or every English class *the teacher shows an interest in every student's learning, the teacher gives extra help when students need it, the teacher helps students with their learning, and the teacher continues teaching until the students understand in most English classes.*
- Students in Queensland reported their teacher provided similar levels of support to students in the Australian Capital Territory, and more teacher support than students from the other jurisdictions.
- Students in Catholic and independent schools reported similar levels of teacher support, and more teacher support than students in government schools.
- Similar levels of teacher support were reported for male students and female students, Indigenous students and non-Indigenous students, and students irrespective of their immigrant background.

- ➔ The least disadvantaged students reported receiving more teacher support than the most disadvantaged students.
- ➔ Students in metropolitan schools reported receiving more teacher support than students in provincial schools and in turn, students in provincial schools reported receiving more teacher support than students in remote schools.
- ➔ Students in the highest quartile of the teacher support index scored 22 points on average higher (around two-thirds of a year of schooling) in reading literacy performance than students in the lowest quartile.

How is teacher support measured in PISA?

Teacher support was measured by asking students how frequently the following behaviours occurred in their English classes:

- ▶ *The teacher shows an interest in every student's learning.*
- ▶ *The teacher gives extra help when students need it.*
- ▶ *The teacher helps students with their learning.*
- ▶ *The teacher continues until the students understand.*

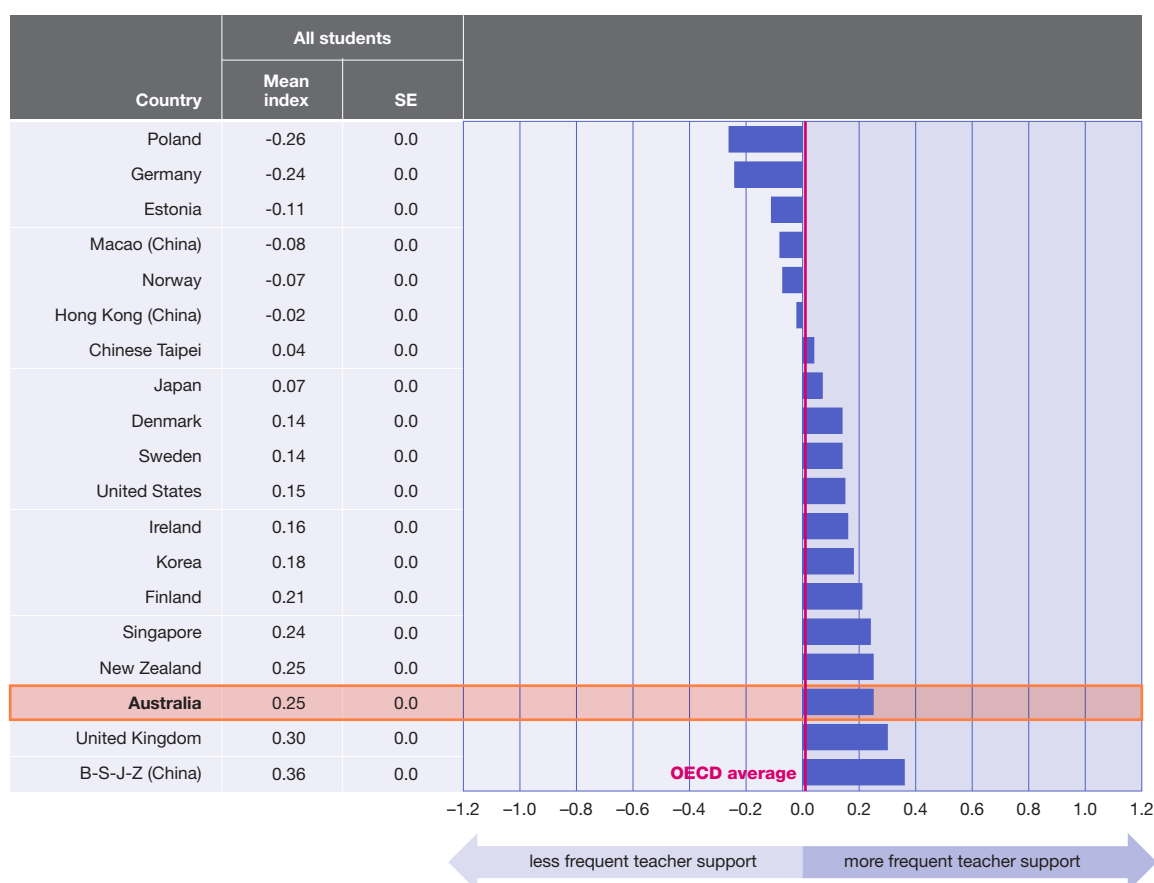
Students were asked to respond to each of the statements on a four-point scale (*every class, most classes, some classes, never or hardly ever*).

An index of teacher support was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values on the index indicate that students perceived their English teacher provided support more frequently. Negative values on the index indicate that students perceived their English teacher provided support less frequently.

Teacher support in an international context

Figure 15.1 shows the mean index scores for Australia, the comparison countries, and the OECD average on the teacher support index.

Students in B-S-J-Z (China) and the United Kingdom reported their teacher provided more support than for Australian students, while students in New Zealand, Singapore and Finland reported similar levels of teacher support. Students from the other comparison countries reported their teacher provided less support than for Australian students. The mean index score of 0.25 for Australia was higher than the OECD average of 0.01.



Note: Data not available for Canada. Countries with the lowest mean score on the teacher support index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 15.1 Teacher support index, for Australia and comparison countries

Figure 15.2 shows that more than half the students in Australia and across the comparison countries reported that the teacher supported them in most or all of their English classes.

- ▶ Seventy-nine per cent of Australian students reported that *the teacher shows an interest in every student's learning* in most English classes.⁴⁰ This percentage was similar for students in Korea, the United Kingdom, New Zealand and the United States. The percentages were higher for students in B-S-J-Z (China) and Singapore, and lower than for students in the remaining 11 comparison countries and the OECD average.
- ▶ Eight-one per cent of Australian students reported that *the teacher gives extra help when students need it* in most English classes. This percentage was similar for students in New Zealand, the United Kingdom, Japan and Korea. The percentages were higher for students in B-S-J-Z (China), Finland and Singapore, and lower for students in the remaining 11 comparison countries, and the OECD average.
- ▶ Eighty-five per cent of Australian students reported that *the teacher helps students with their learning* in most English classes. This percentage was similar for students in New Zealand, B-S-J-Z (China), and Sweden. The percentages were higher for students in the United Kingdom, Singapore, Finland, Denmark and Korea, and lower for students in the remaining 10 comparison countries, and the OECD average.
- ▶ Seventy-six per cent of Australian students reported that *the teacher continues teaching until the student understands* in most English classes. This percentage was similar for students in Japan, B-S-J-Z (China), Sweden, the United Kingdom, Korea, New Zealand and Finland. The

40 For ease of reading, from this point onward 'every class or 'most classes' will be referred to as 'most English classes'.

percentages were higher for students in Denmark and Singapore, and lower for students from the remaining 9 comparison countries, and the OECD average.

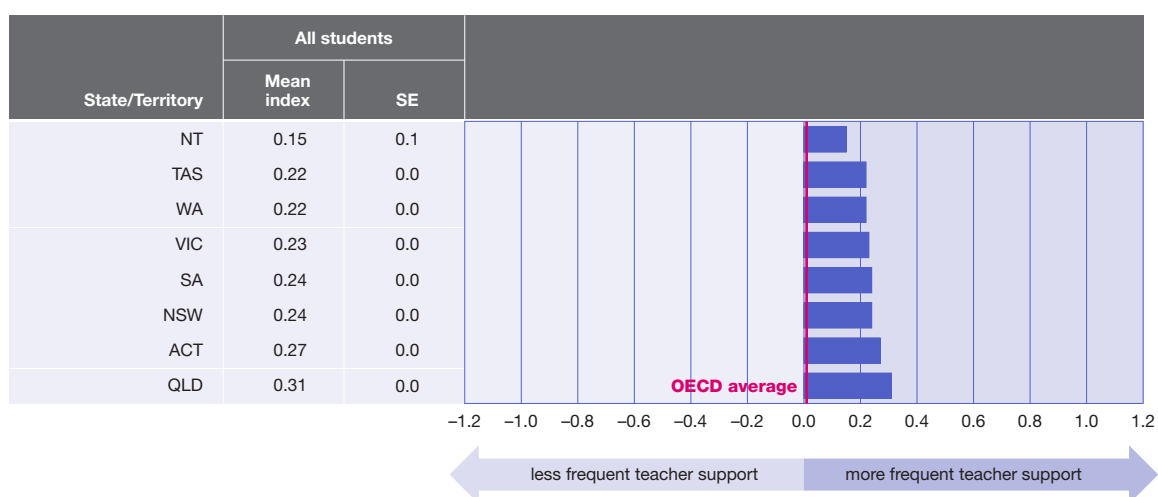
Country	Percentage of students who reported the following things happen in <i>most or every</i> English class			
	The teacher shows an interest in every student's learning	The teacher gives extra help when students need it	The teacher helps students with their learning	The teacher continues teaching until the students understand
Poland	62	68	65	62
Germany	61	73	63	63
Estonia	60	74	76	68
Macao (China)	70	72	75	68
Norway	70	71	80	69
Hong Kong (China)	73	74	78	70
Chinese Taipei	57	79	82	70
Japan	75	81	83	77
Denmark	77	78	87	79
Sweden	76	76	84	76
United States	77	77	83	68
Ireland	76	75	81	74
Korea	79	80	87	75
Finland	74	85	87	75
Singapore	80	84	88	78
New Zealand	78	82	86	75
Australia	79	81	85	76
United Kingdom	79	81	88	76
B-S-J-Z (China)	83	86	86	76
OECD average	71	75	76	70

Note: Data not available for Canada. Countries are listed from the lowest to highest mean score on the teacher support index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 15.2 Percentage of students who reported how often behaviours related to teacher support occurred in their English classes, for Australia and comparison countries

Teacher support in a national context

Figure 15.3 shows the teacher support index, by jurisdiction. Students in Queensland reported that their teacher provided similar levels of support to students in the Australian Capital Territory, and more teacher support than students in the other jurisdictions.



Note: Jurisdictions with the lowest mean score on the teacher support index are placed at the top of the figure and jurisdictions with highest mean score on the index are placed at the bottom.

FIGURE 15.3 Teacher support index, by state and territory

Figure 15.4 presents the percentages of students who reported that their teacher supported them in most of their English classes for the jurisdictions.

Most students across the jurisdictions reported that they were supported by their teacher in most of their English classes.

- ▶ Seventy-two per cent of students in the Northern Territory to 80% of students in the Australian Capital Territory and Queensland reported that *the teacher shows an interest in every student's learning* in most English classes.
- ▶ Seventy-seven per cent of students in the Northern Territory to 84% of students in the Australian Capital Territory reported that *the teacher gives extra help when the students need it* in most English classes.
- ▶ Eighty-four per cent of students in South Australia and Western Australia to 87% of students in the Australian Capital Territory reported that *the teacher helps students with their learning* in most English classes.
- ▶ Seventy-three per cent of students in Tasmania to 77% of students in the Australian Capital Territory and Queensland reported that *the teacher continues teaching until the student understands* in most English classes.

State/Territory	Percentage of students who reported the following things happen in most or every English class			
	The teacher shows an interest in every student's learning	The teacher gives extra help when students need it	The teacher helps students with their learning	The teacher continues teaching until the students understand
NT	72	77	86	76
TAS	76	81	85	73
WA	78	82	84	74
VIC	78	80	85	76
SA	78	80	84	76
NSW	79	81	85	74
ACT	80	84	87	77
QLD	80	82	86	77

Note: Jurisdictions are listed from the lowest to highest mean score on the teacher support index.

FIGURE 15.4 Percentage of students who reported how often behaviours related to teacher support occurred in their English classes, by state and territory

Figure 15.5 shows the teacher support index by school sector. Students in Catholic and independent schools reported similar levels of teacher support, while they received more teacher support than students in government schools.

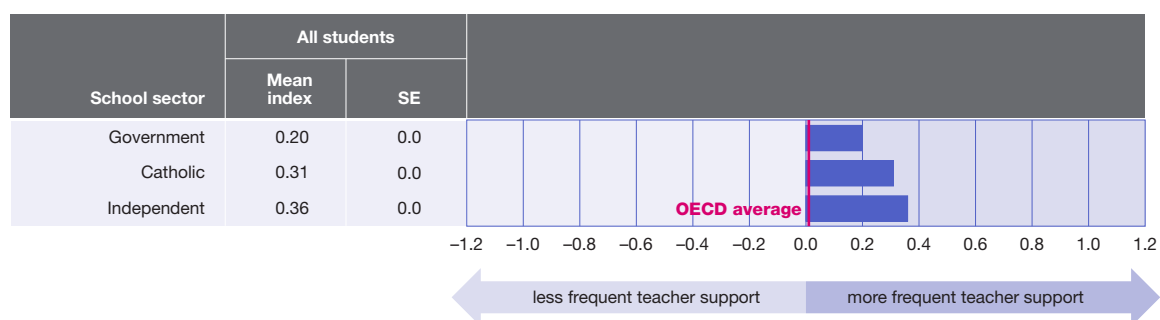


FIGURE 15.5 Teacher support index, by school sector

Figure 15.6 shows a higher percentage of students in Catholic and independent schools reported that the behaviours in each of the teacher support statements occurred in most English classes than was reported by students in government schools.

School sector	Percentage of students who reported the following things happen in <i>most or every</i> English class			
	The teacher shows an interest in every student's learning	The teacher gives extra help when students need it	The teacher helps students with their learning	The teacher continues teaching until the students understand
Government	77	80	84	74
Catholic	80	82	87	77
Independent	82	84	87	79

FIGURE 15.6 Percentage of students who reported how often behaviours related to teacher support occurred in their English classes, by school sector

Teacher support for different demographic groups in a national context

Figure 15.7 shows the mean index scores on the teacher support index for students from different demographic groups.

- ▶ The least disadvantaged students reported receiving more teacher support than the most disadvantaged students.
- ▶ Students in metropolitan schools reported receiving more teacher support than students in provincial schools and in turn, students in provincial schools reported receiving more teacher support than students in remote schools.
- ▶ Similar levels of teacher support were reported by males and females, Indigenous and non-Indigenous students, and students from different immigrant backgrounds.

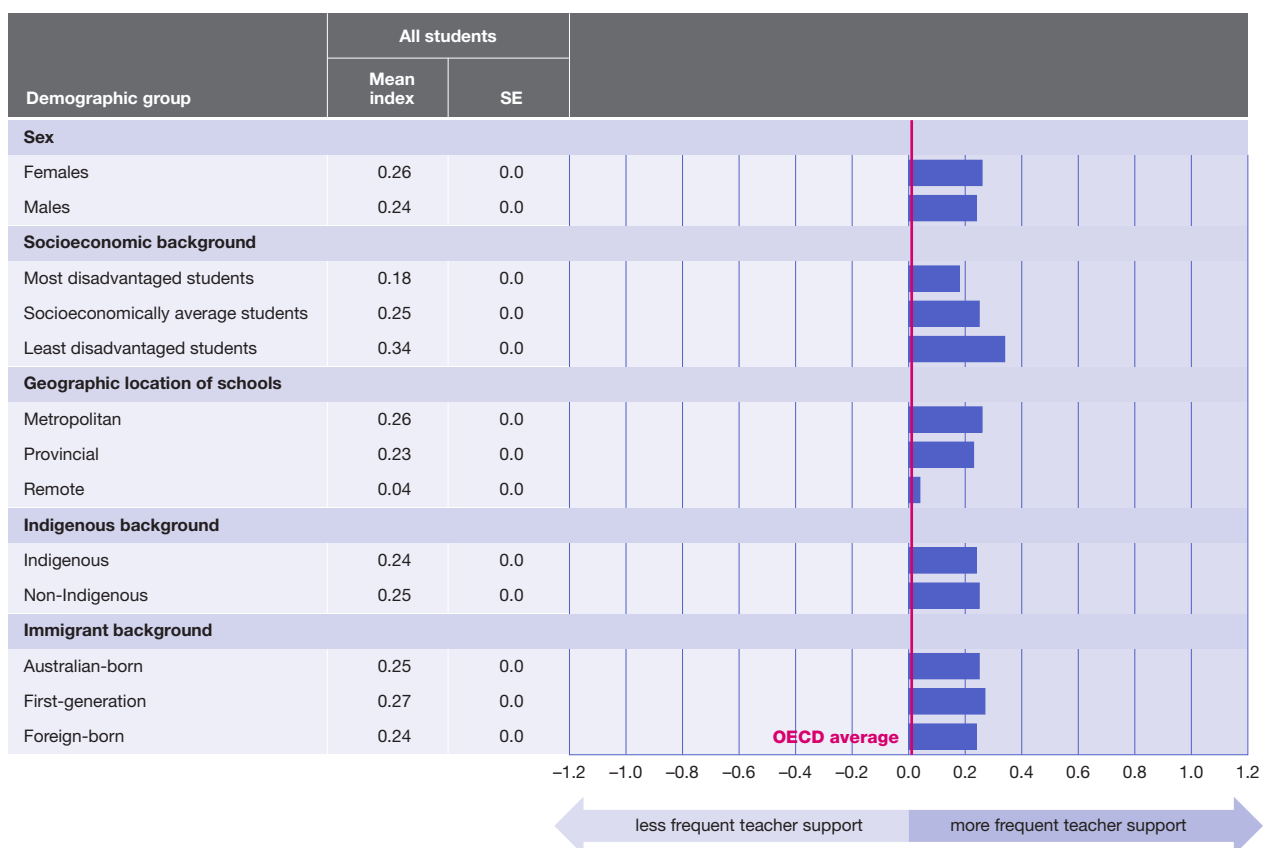


FIGURE 15.7 Teacher support index, for different demographic groups

Figure 15.8 shows the percentages of students who reported that the behaviours in each of the statements about teacher support occurred in most English classes for the different demographic groups.

- ▶ A higher percentage of the least disadvantaged students reported that *the teacher shows an interest in every students learning, the teacher gives extra help when students need it, the teacher helps students with their learning, and the teacher continues teaching until the students understands* occurs in most English classes than reported by the most disadvantaged students. The difference between the least and most disadvantaged students was around 5 percentage points for each of the statements.
- ▶ A higher percentage of students in metropolitan schools reported that *the teacher gives extra help when students need it* in most English classes than reported by students in remote schools (a difference of 8 percentage points).
- ▶ A higher percentage of students in metropolitan schools reported that *the teacher helps students with their learning* in most classes than students in remote schools (a difference of 11 percentage points), and the percentage was higher for students in provincial schools than students in remote schools (a difference of 10 percentage points).

Demographic group	Percentage of students who reported the following things happen in <i>most or every</i> English class			
	The teacher shows an interest in every student's learning	The teacher gives extra help when students need it	The teacher helps students with their learning	The teacher continues teaching until the students understand
Sex				
Females	78	81	85	75
Males	79	81	85	76
Socioeconomic background				
Most disadvantaged students	76	79	83	74
Socioeconomically average students	78	81	85	75
Least disadvantaged students	83	84	88	79
Geographic location of schools				
Metropolitan	79	81	86	76
Provincial	77	80	85	74
Remote	74	73	75	69
Indigenous background				
Indigenous	78	78	82	73
Non-Indigenous	79	81	85	76
Immigrant background				
Australian-born	79	80	85	75
First-generation	79	82	86	76
Foreign-born	78	83	86	76

FIGURE 15.8 Percentage of students who reported how often behaviours related to teacher support occurred in their English classes, for different demographic groups

Teacher support and reading literacy performance

Figure 15.9 shows that the high performers reported receiving more teacher support in most English classes than the middle performers, who in turn reported receiving more teacher support than the low performers.

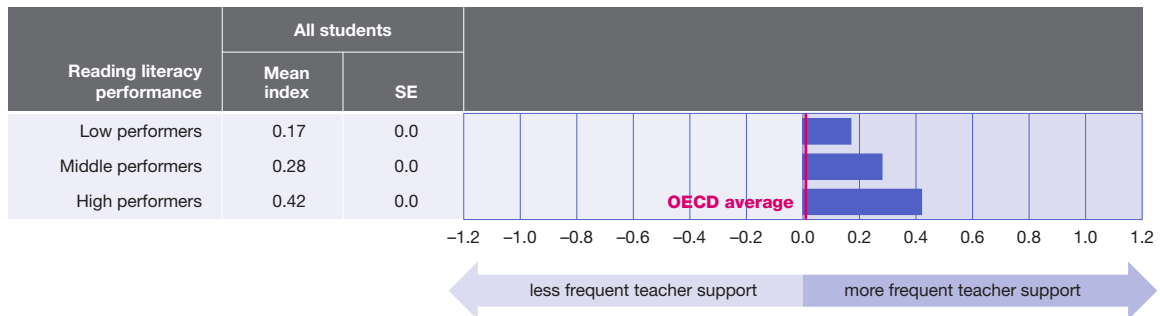


FIGURE 15.9 Teacher support index, by reading literacy performance group for Australia

Figure 15.10 shows there was a higher percentage of high performers who reported that the behaviours in each of the statements about teacher support occurred in most English classes than low performers.

- A higher percentage of high performers reported that *the teacher shows an interest in every student's learning*, *the teacher gives extra help when students need it*, *the teacher helps students with their learning*, and *the teacher continues teaching until the students understand* in most English classes than reported by low performers. The difference was around 10 percentage points between the low and high performers for each of the statements.

- ▶ A higher percentage of high performers reported that *the teacher gives extra help when students need it, the teacher helps students with their learning, and the teacher continues teaching until the students understand* in most English classes than reported by middle performers. The difference was around 4 percentage points between the middle and high performers for each of the statements.
- ▶ A higher percentage of middle performers reported that *the teacher shows an interest in every students learning, the teacher gives extra help when students need it, the teacher helps students with their learning, and the teacher continues teaching until the students understand* in most English classes than reported by low performers. The difference was around 7 percentage points between the low and middle performers for each of the statements. A higher percentage of middle performers also reported that *the teacher continues teaching until the students understand* in most English classes than reported by low performers, with a difference of 3 percentage points.

Reading literacy performance	Percentage of students who reported the following things happen in <i>most or every</i> English class			
	The teacher shows an interest in every student's learning	The teacher gives extra help when students need it	The teacher helps students with their learning	The teacher continues teaching until the students understand
Low performers	73	76	81	73
Middle performers	81	83	87	76
High performers	84	87	91	82

FIGURE 15.10 Percentage of students who reported how often behaviours related to teacher support occurred in their English classes, by reading literacy performance group

The relationship between teacher support and reading literacy performance

Figure 15.11 shows the relationship between the quartiles of teacher support and reading literacy performance for Australia. There was little association between teacher support and reading literacy performance ($r = 0.08$). Students in the highest quartile scored 22 points on average higher in reading literacy performance than students in the lowest quartile. This score point difference is equal to around two-thirds of a year of schooling.

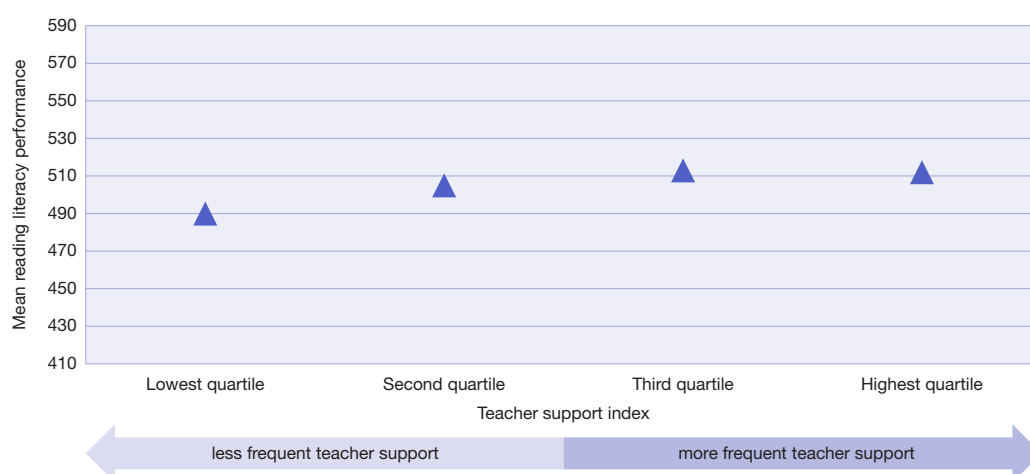


FIGURE 15.11 Relationship between teacher support and reading literacy performance, for Australia



Teacher feedback

CHAPTER

16

Teacher feedback is an essential part of the learning process that provides the student with information about their performance or understanding (Hattie & Timperley, 2007). Feedback is associated with performance (Hattie, 2009) and motivation (Narciss et al., 2014).

This chapter examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in students' perception of teacher feedback, and how they vary by student characteristics. It also explores the relationship between teacher feedback and reading literacy performance.

Key findings

- On average, Australian students reported similar levels of teacher feedback at school to students in Chinese Taipei and the United States, and more teacher feedback than students from the OECD countries.
- On average, around half of the Australian students reported that *the teacher gives me feedback on my strengths in this subject* in most English classes, while almost 60% reported that *the teacher tells me in which areas I can still improve* and *the teacher tells me how I can improve my performance* in most English classes.
- Students in Victoria, South Australia, Tasmania, Western Australia, the Australian Capital Territory and the Northern Territory reported their teacher provided similar levels of feedback to students.
- Students in independent schools reported receiving more teacher feedback than students in government and Catholic schools. Students in government and Catholic schools reported receiving similar levels of feedback from their teacher.
- Male students reported receiving more teacher feedback than female students.
- The least disadvantaged students reported receiving more teacher feedback than the most disadvantaged students.
- Students in metropolitan schools reported receiving more teacher feedback than students

in provincial schools.

- ➔ Similar levels of teacher feedback were reported for Indigenous and non-Indigenous students.
- ➔ Foreign-born students reported receiving more teacher feedback than Australian-born and first-generation students. Australian-born and first-generation students reported receiving similar levels of feedback from their teacher.
- ➔ Students in the highest quartile of the teacher feedback index scored 12 points on average higher (around one-third of a year of schooling) in reading literacy performance than students in the lowest quartile.

How is teacher feedback measured in PISA?

Teacher feedback was measured by asking students how frequently the following behaviours occurred in their English classes:

- ▶ *The teacher gives me feedback on my strengths in this subject.*
- ▶ *The teacher tells me in which areas I can still improve.*
- ▶ *The teacher tells me how I can improve my performance.*

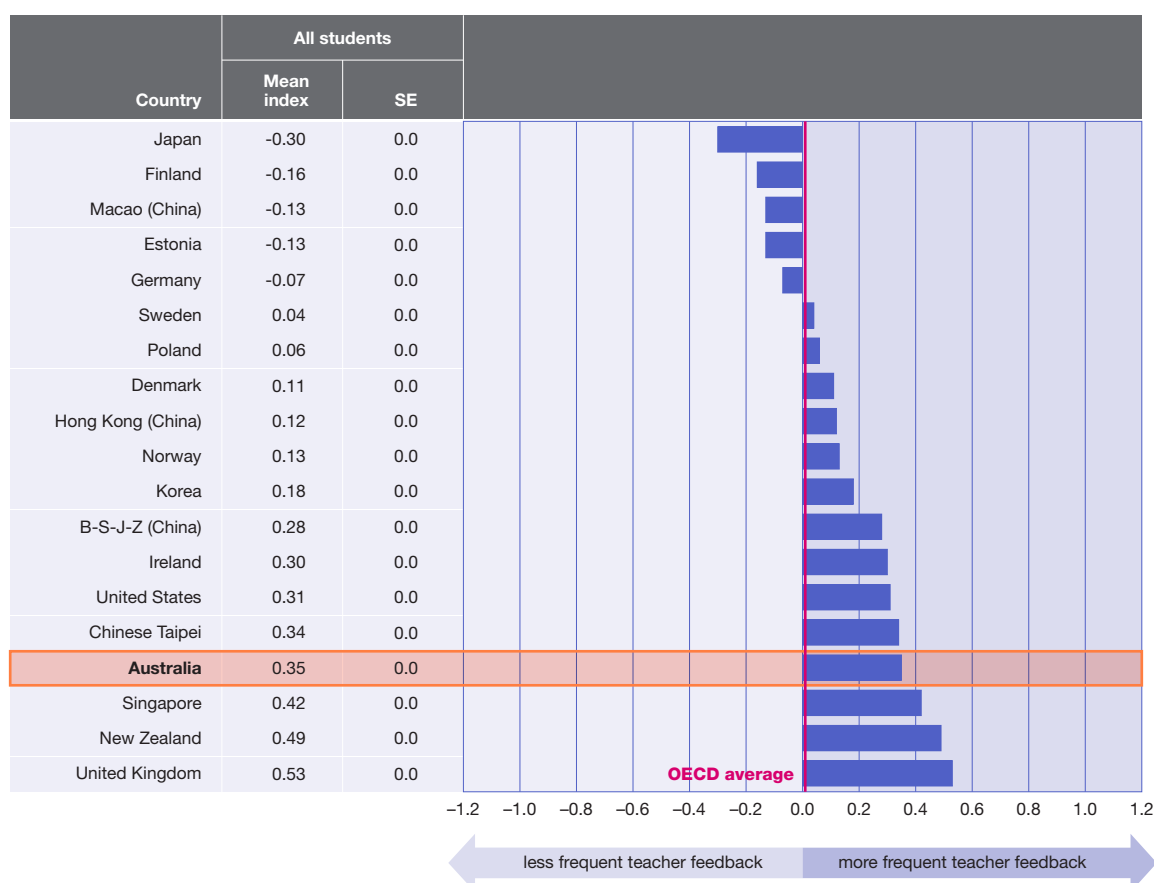
Students were asked to respond to each of the statements on a four-point scale (*every class or almost every class, many classes, some classes, never or almost never*).

An index of teacher feedback was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values on the index indicate that students perceived their English teacher provided feedback more frequently. Negative values on the index indicate that students perceived their English teacher provided feedback less frequently.

Teacher feedback in an international context

Figure 16.1 shows the mean index scores for Australia, the comparison countries, and the OECD average on the teacher feedback index.

Students in the United Kingdom, New Zealand and Singapore reported their teacher provided more feedback than for Australian students, while students in Chinese Taipei and the United States reported similar levels of teacher feedback. Students in the other comparison countries reported their teacher provided less feedback than for Australian students. The mean index score of 0.35 for Australia was higher than the OECD average of 0.01.



Note: Data not available for Canada. Countries with the lowest mean score on the teacher feedback index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 16.1 Teacher feedback index, for Australia and comparison countries

Figure 16.2 shows the percentage of students in Australia and across the comparison countries who reported that different behaviours related to teacher feedback occurred in most of their English classes.

- ▶ Fifty-two per cent of Australian students reported that *the teacher gives me feedback on my strengths in this subject* in most English classes.⁴¹ This percentage was lower than for students in New Zealand and the United Kingdom, and higher than for students in the remaining 16 comparison countries, and the OECD average.
- ▶ Fifty-seven per cent of Australian students reported that *the teacher tells me in which areas I can still improve* in most English classes. This percentage was similar for students in Chinese Taipei. The percentages were lower for students in Singapore, New Zealand and the United Kingdom, and higher for students in the remaining 14 comparison countries, and the OECD average.
- ▶ Fifty-six per cent of Australian students reported that *the teacher tells me how I can improve my performance* in most English classes. This percentage was similar for students in Chinese Taipei. The percentages were lower for students in Singapore, New Zealand and the United Kingdom, and higher for students in the remaining 14 comparison countries, and the OECD average.

41 For ease of reading, from this point onward 'most' or 'every class' will be referred to as 'most English classes'.

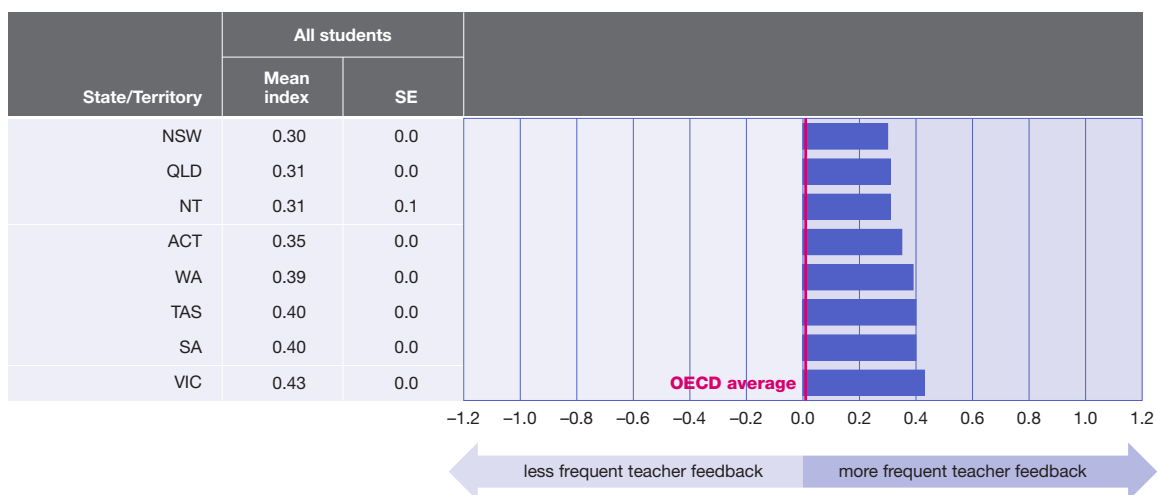
Country	Percentage of students who reported the following things happen in <i>most</i> or <i>every</i> English class		
	The teacher gives me feedback on my strengths in this subject	The teacher tells me in which areas I can still improve	The teacher tells me how I can improve my performance
Japan	19	29	45
Finland	32	33	33
Macao (China)	20	39	36
Estonia	35	32	40
Germany	26	43	40
Sweden	35	42	44
Poland	32	48	45
Denmark	44	46	43
Hong Kong (China)	35	47	46
Norway	39	49	45
Korea	44	50	53
B-S-J-Z (China)	41	55	49
Ireland	47	55	53
United States	47	54	53
Chinese Taipei	46	56	56
Australia	52	57	56
Singapore	50	61	59
New Zealand	56	64	62
United Kingdom	58	64	61
OECD average	34	43	45

Note: Data not available for Canada. Countries are listed from the lowest to highest mean score on the teacher feedback index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 16.2 Percentage of students who reported how often behaviours related to teacher feedback occurred in their English classes, for Australia and comparison countries

Teacher feedback in a national context

Figure 16.3 shows the teacher feedback index, by jurisdiction. Students in Victoria, South Australia, Tasmania, Western Australia, the Australian Capital Territory and the Northern Territory reported their teacher provided similar levels of feedback to students, while students in Queensland and New South Wales, reported their teacher provided less teacher feedback than students in Victoria, South Australia and Western Australia.



Note: Jurisdictions with the lowest mean score on the teacher feedback index are placed at the top of the figure and jurisdictions with highest mean score on the index are placed at the bottom.

FIGURE 16.3 Teacher feedback index, by state and territory

Figure 16.4 presents the percentages of students who reported that their teacher provided feedback in most or all of their English classes for the jurisdictions.

- ▶ Forty-seven per cent of students in Western Australia to 55% of students in Tasmania and the Northern Territory reported that *the teacher gives me feedback on my strengths in this subject* in most English classes.
- ▶ Fifty-four per cent of students in Queensland to 61% of students in Tasmania reported that *the teacher tells me in which areas I can still improve* in most English classes.
- ▶ Fifty-three per cent of students in Queensland to 59% of students in New South Wales reported that *the teacher tells me how I can improve my performance* in most English classes.

State/Territory	Percentage of students who reported the following things happen in <i>most or every</i> English class		
	The teacher gives me feedback on my strengths in this subject	The teacher tells me in which areas I can still improve	The teacher tells me how I can improve my performance
NSW	51	58	59
QLD	48	54	53
NT	55	60	58
ACT	50	55	55
WA	47	57	56
TAS	55	61	58
SA	53	59	57
VIC	53	59	58

Note: Jurisdictions are listed from the lowest to highest mean score on the teacher feedback index.

FIGURE 16.4 Percentage of students who reported how often behaviours related to teacher feedback occurred in their English classes, by state and territory

Figure 16.5 shows the teacher feedback index by school sector. Students in independent schools reported receiving more teacher feedback than students in government and Catholic schools. These students reported receiving similar levels of feedback from their teacher.

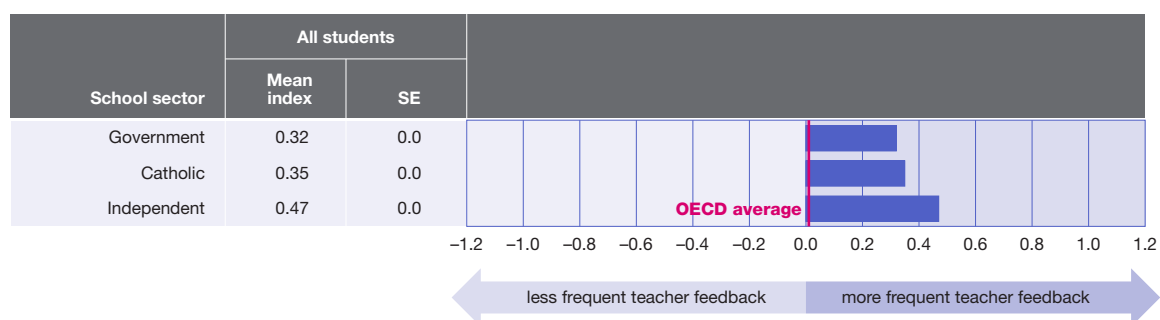


FIGURE 16.5 Teacher feedback index, by school sector

Figure 16.6 shows there was a higher percentage of students in independent schools who reported that the behaviours in each of the statements about teacher feedback occurred in most English classes than for students in government and Catholic schools.

School sector	Percentage of students who reported the following things happen in <i>most or every</i> English class		
	The teacher gives me feedback on my strengths in this subject	The teacher tells me in which areas I can still improve	The teacher tells me how I can improve my performance
Government	50	56	55
Catholic	52	58	55
Independent	56	62	61

FIGURE 16.6 Percentage of students who reported how often behaviours related to teacher feedback occurred in their English classes, by school sector

Teacher feedback for different demographic groups in a national context

Figure 16.7 shows the mean index scores on the teacher feedback index for students from different demographic groups.

- ▶ Male students reported receiving more teacher feedback than female students.
- ▶ The least disadvantaged students reported receiving more teacher feedback than the most disadvantaged students.
- ▶ Students in metropolitan schools reported receiving more teacher feedback than students in provincial schools.
- ▶ Similar levels of teacher feedback were reported for Indigenous and non-Indigenous students.
- ▶ Foreign-born students reported receiving more teacher feedback than Australian-born and first-generation students, who reported receiving similar levels of feedback from their teacher.



FIGURE 16.7 Teacher feedback index, for different demographic groups

Figure 16.8 shows the percentage of students who reported that the behaviours in each of the statements about teacher feedback occurred in most English classes, for the different demographic groups.

- ▶ A higher percentage of male students reported that *the teacher gives me feedback on my strengths in this subject, the teacher tells me in which areas I can still improve, and the teacher tells me how I can improve my performance* in most English classes than female students. The difference ranged between 3 and 6 percentage points.
- ▶ A higher percentage of the least disadvantaged students reported that *the teacher gives me feedback on my strengths in this subject, the teacher tells me in which areas I can still improve, and the teacher tells me how I can improve my performance* than the most disadvantaged students. The difference between the least and most disadvantaged students was around 9 percentage points for each of the statements.
- ▶ A higher percentage of students in metropolitan schools reported that *the teacher gives me feedback on my strengths in this subject* in most English classes than students in provincial schools (a difference of 5 percentage points).
- ▶ A higher percentage of foreign-born students reported that *the teacher gives me feedback on my strengths in this subject* and *the teacher tells me how I can improve my performance* in most English classes than Australian-born students (a difference of 5 percentage points and 4 percentage points respectively). A higher percentage of first-generation students also reported that their teacher gives them feedback on their strengths than Australian-born students (a difference of 3 percentage points).

Demographic group	Percentage of students who reported the following things happen in <i>most</i> or <i>every</i> English class		
	The teacher gives me feedback on my strengths in this subject	The teacher tells me in which areas I can still improve	The teacher tells me how I can improve my performance
Sex			
Females	50	54	53
Males	53	60	59
Socioeconomic background			
Most disadvantaged students	47	53	52
Socioeconomically average students	51	57	56
Least disadvantaged students	56	62	60
Geographic location of schools			
Metropolitan	52	58	57
Provincial	50	56	54
Remote	47	59	52
Indigenous background			
Indigenous	51	57	57
Non-Indigenous	52	57	56
Immigrant background			
Australian-born	50	56	55
First-generation	53	58	56
Foreign-born	55	59	59

FIGURE 16.8 Percentage of students who reported how often behaviours related to teacher feedback occurred in their English classes, for different demographic groups

Teacher feedback and reading literacy performance

Figure 16.9 shows that the middle and high performers reported similar levels of teacher feedback and received more teacher feedback than the low performers.

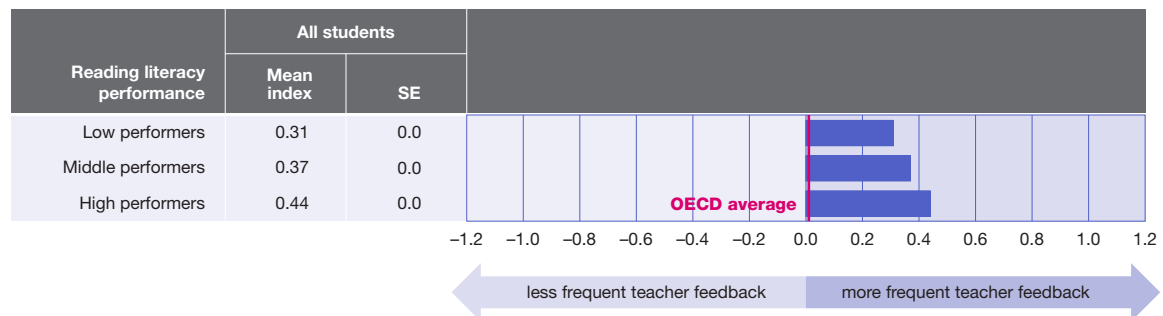


FIGURE 16.9 Teacher feedback index, by reading literacy performance group for Australia

Figure 16.10 shows the percentage of students who reported that the behaviours in each of the statements about teacher feedback occurred in most English classes for the different reading literacy performance groups.

- ▶ A higher percentage of middle and high performers reported that *the teacher gives me feedback on my strengths in this subject* in most English classes than low performers (a difference of 3 percentage points and 8 percentage points respectively).
- ▶ A higher percentage of middle and high performers reported that *the teacher tells me in which areas I can still improve* in most English classes than low performers (a difference of 4 percentage points and 7 percentage points respectively).

Reading literacy performance	Percentage of students who reported the following things happen in <i>most or every</i> English class		
	The teacher gives me feedback on my strengths in this subject	The teacher tells me in which areas I can still improve	The teacher tells me how I can improve my performance
Low performers	49	54	54
Middle performers	52	58	56
High performers	57	61	59

FIGURE 16.10 Percentage of students who reported how often behaviours related to teacher feedback occurred in their English classes, by reading literacy performance group

The relationship between teacher feedback and reading literacy performance

Figure 16.11 shows the relationship between the quartiles of teacher feedback and reading literacy performance for Australia. There was little association between teacher feedback and reading literacy performance ($r = 0.05$). Students in the highest quartile scored 12 points on average higher in reading literacy performance than students in the lowest quartile. This score point difference is equal to around one-third of a year of schooling.

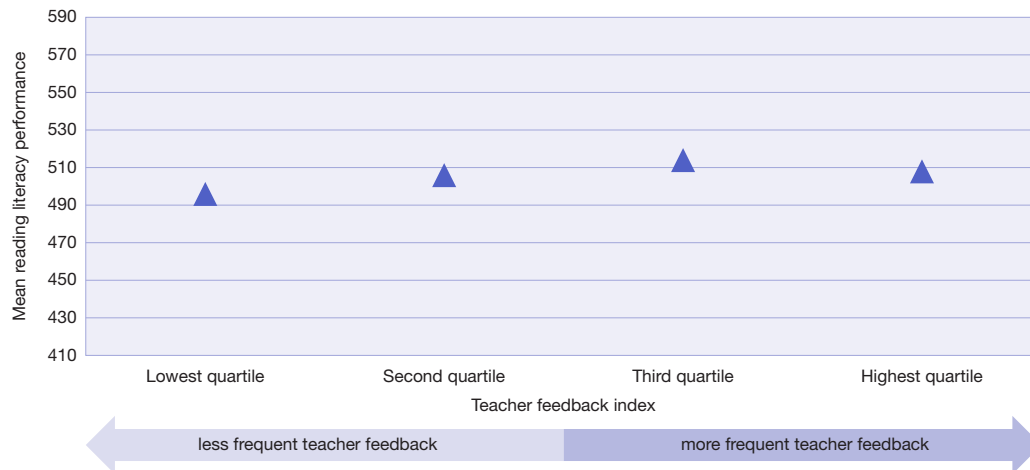


FIGURE 16.11 Relationship between teacher feedback and reading literacy performance, for Australia



Teacher behaviour hindering learning

CHAPTER

17

Teachers play an integral role in enhancing student learning through their day-to-day interactions with students. As such, teachers' relationships with their students are a key factor in facilitating or hindering students' learning and psychological outcomes (West, 1994). Teachers' behaviours and attitudes can help or hinder student motivation, achievement and well-being (Blazer, D. et al., 2017).

While Chapter 10 focused on school climate from the perspective of student behaviour hindering learning, this chapter examines the extent to which teacher behaviour, as perceived by school principals, is related to student learning. It examines the similarities and differences between countries, the Australian jurisdictions and different demographic groups in teacher behaviour hindering learning and how they vary by student characteristics. It also explores the relationship between teacher behaviour and reading literacy performance.

Key findings

- On average, principals of Australian students reported similar levels of teacher behaviour hindering learning to principals of students in New Zealand, Canada, Chinese Taipei, Norway and principals in B-S-J-Z (China) and to a greater extent than the OECD average.
- On average, two-fifths of principals of Australian students reported that teacher behaviour hindered student learning to some extent or a lot by *teachers not meeting individual students' needs* and *staff resisting change*, while one-fifth of principals reported *teacher absenteeism* hindered student learning
- On average, approximately one-tenths of Australian principals of students reported to some extent or a lot student learning was hindered by *teachers not being well prepared for classes* and *teachers being too strict with students*.
- Principal reports of teacher behaviour hindering student learning increased between PISA 2012 and 2018. For instance, there was a 6 percentage point increase for Australian principals who agreed to some extent or a lot that *teacher absenteeism* hindered learning and a 3 percentage point increase for Australian principals who agreed to some extent or a lot that *teachers being too strict with students* hindered student learning.

- ➔ Principals of students in the Northern Territory reported similar levels of teacher behaviour hindering student learning to principals in Victoria and Tasmania, and to a greater extent than principals of students from the other jurisdictions.
- ➔ Principals of students in government schools reported that teacher behaviour hindered student learning to a greater extent than did principals in Catholic schools and more so than principals in independent schools. Teacher behaviour hindered student learning to a greater extent in Catholic schools than in independent schools.
- ➔ Principals of Australian students reported that teacher behaviour hindered student learning to a similar extent for female and male students.
- ➔ Principals of the least disadvantaged students reported that teacher behaviour hindered student learning to a lesser extent than was reported by principals of the most disadvantaged students.
- ➔ Principals of students who attended schools in provincial areas perceived teacher behaviour hindered student learning more so than did principals of students in metropolitan schools.
- ➔ Principals of Indigenous students reported that student learning was hindered by teacher behaviour to a greater extent than was reported by principals of non-Indigenous students.
- ➔ Irrespective of students' immigrant background, principals of Australian-born students, first-generation and foreign-born students reported learning was hindered to a similar extent by teacher behaviour.
- ➔ Students in the highest quartile of the teacher behaviour hindering learning index scored on average 28 points lower (just under one year of schooling) in reading literacy performance than students in the lowest quartile.

How is teacher behaviour hindering learning measured in PISA?

In 2018, PISA asked school principals to report the extent to which they thought student learning in their schools was hindered by the following teacher behaviour factors:

- ▶ *Teachers not meeting individual students' needs.*
- ▶ *Teacher absenteeism.*
- ▶ *Staff resisting change.*
- ▶ *Teacher being too strict with students.*
- ▶ *Teachers not being well prepared for classes.*

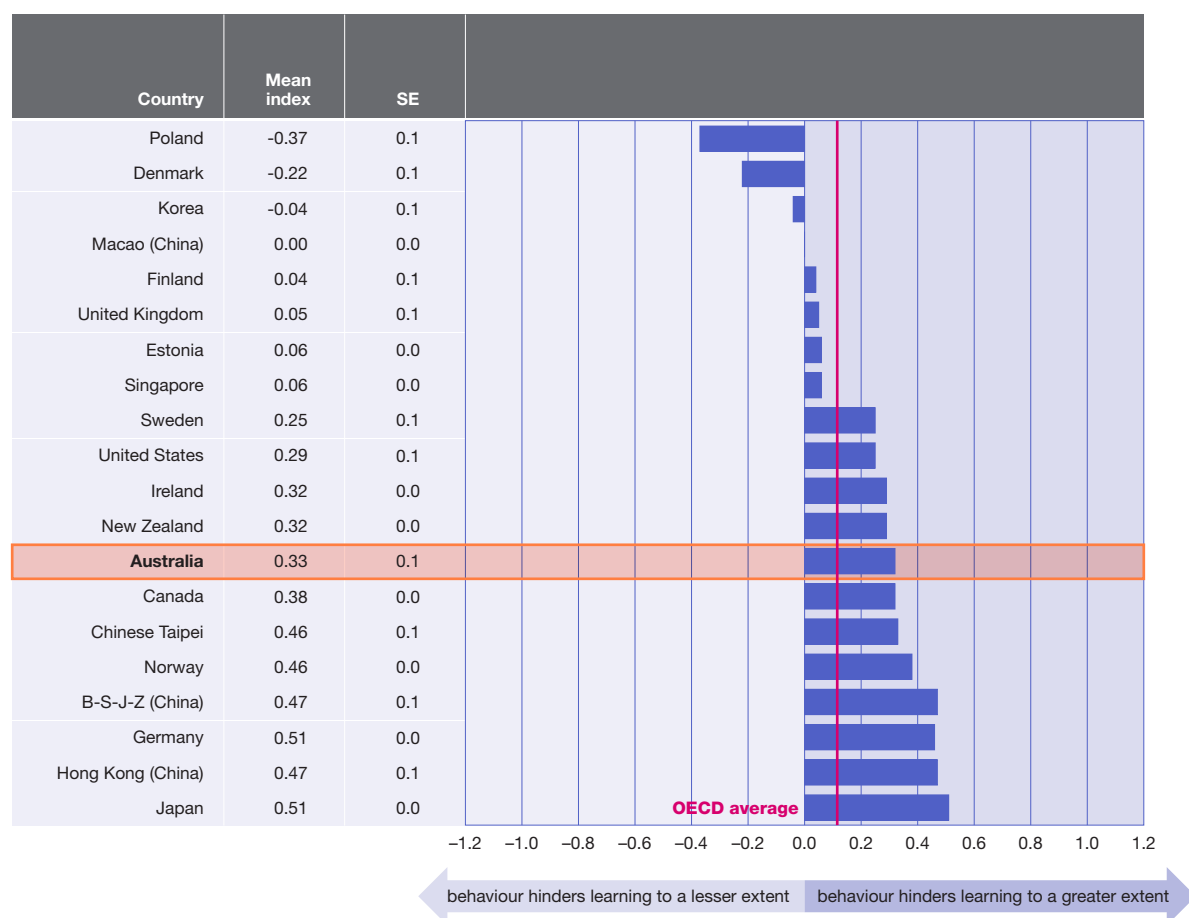
Principals were asked to respond to each of the statements on a four-point scale (*not at all, very little, to some extent, a lot*).

An index of teacher behaviour hindering learning was constructed using the responses to these statements. The index was standardised to have a mean of 0 and a standard deviation of 1 across OECD countries. Positive values in this index reflect principals' perceptions that these teacher behaviours hinder learning to a greater extent; negative values indicate that principals believe that these teacher behaviours hinder learning to a lesser extent.

Teacher behaviour hindering learning in an international context

Figure 17.1 presents the mean index scores for Australia, the comparison countries, and the OECD average on the teacher behaviour hindering learning index. Principals of students from 12 of the comparison countries, including Poland, Denmark, Korea, Macao (China) and Finland, reported the lowest levels of teacher behaviour hindering learning than Australian principals, while principals in New Zealand, Canada, Chinese Taipei, Norway and B-S-J-Z (China) reported similar levels of teacher behaviour hindering learning to Australian principals.

Principals in Japan reported the greatest levels of perceived teacher behaviour hindering learning, achieving the highest mean index of all countries, while Poland, reported the lowest mean index score. The mean index score of 0.33 for Australia was higher than that of principals of students for the OECD average (0.13).



Note: Countries with the lowest mean score on the teacher behaviour hindering learning index are placed at the top of the figure and countries with the highest mean score on the index are placed at the bottom.

FIGURE 17.1 Teacher-related behaviours hindering learning index, for Australia and comparison countries

Figure 17.2 shows principals' responses to the individual items comprising the index of teacher behaviour hindering learning.⁴²

- ▶ Thirty-eight per cent of Australian students attended schools in which principals perceived student learning was hindered by *teachers not meeting individual students' needs*. This percentage was similar for principals of students from 10 comparison countries, including New Zealand, Canada, Ireland, Finland and the United States. The percentages were higher for principals of students in B-S-J-Z (China) and Hong Kong (China), and lower for principals of students in Poland, Denmark, Singapore, Macao (China), the United Kingdom, Germany and from across the OECD.
- ▶ Nineteen per cent of Australian students attended schools in which principals perceived student learning was hindered by *teacher absenteeism*. This percentage was similar for principals of students from Hong Kong (China), the United States, Denmark, Canada, Ireland, Estonia, the United Kingdom and Sweden. The percentages were higher for principals of students in B-S-J-Z (China), Germany and Norway and lower for principals of students in Singapore, Korea, Japan, Chinese Taipei, Poland, New Zealand and Finland.

42 For ease of reading, from this point onward, 'to some extent' or 'a lot' will be referred to as 'hindered'.

- ▶ Thirty-seven per cent of Australian students attended schools in which principals perceived student learning was hindered by *staff resisting change*. This percentage was similar for principals of students from Ireland, Chinese Taipei, New Zealand, the United States, Germany, Canada and Hong Kong (China). The percentages were higher for principals of students in B-S-J-Z (China), and lower for principals of students in the remaining 11 comparison countries, including, Macao (China), the United Kingdom, Korea and Denmark.
- ▶ Nine per cent of Australian students attended schools in which principals perceived student learning was hindered by *teachers being too strict with students* was similar for principals of students from eight comparison countries, including New Zealand, the United States, Hong Kong (China), Finland, Germany and Norway. The percentages were higher for principals of students in eight comparison countries, including Japan, B-S-J-Z (China), Chinese Taipei and Estonia, and lower for principals of students in Denmark, Estonia, Sweden and the United.
- ▶ Fourteen per cent of Australian students attended schools in which principals perceived student learning was hindered by *teachers not being well prepared for classes*. This percentage was similar for principals of students from eight comparison countries, including Germany, Ireland, Macao (China), Norway and the United States. The percentages were higher for principals of students in B-S-J-Z (China), Chinese Taipei, Hong Kong (China), Japan and Korea, and lower for principals of students in the remaining eight comparison countries, including the United Kingdom, Finland, Estonia and Denmark.

Country	Percentage of students in schools whose principal reported behaviour occurring <i>to some extent or a lot</i>				
	Teachers not meeting individual students' needs	Teacher absenteeism	Staff resisting change	Teachers being too strict with students	Teachers not being well prepared for classes
Poland	12	9	20	8	9
Denmark	15	17	17	3	7
Korea	31	5	17	17	20
Macao (China)	26	14	11	16	15
Finland	32	13	27	6	5
United Kingdom	26	21	11	3	5
Estonia	35	20	27	19	6
Singapore	26	4	25	15	8
Sweden	40	21	18	4	8
United States	35	14	35	11	10
Ireland	32	20	30	9	13
New Zealand	39	10	34	7	8
Australia	38	19	37	9	14
Canada	34	19	39	17	9
Chinese Taipei	32	7	31	20	23
Norway	45	31	21	6	9
B-S-J-Z (China)	52	32	53	23	41
Germany	30	42	37	10	14
Hong Kong (China)	56	13	43	12	22
Japan	42	6	29	24	28
OECD average	30	18	29	12	13

Note: Countries are listed from the lowest to highest mean score on the teacher behaviour hindering learning index. The OECD average has been included at the bottom of the figure for comparison.

FIGURE 17.2 Percentage of teacher-related behaviours hindering learning, for Australia and comparison countries

In PISA 2012, principals were asked the same questions about the extent to which student learning was hindered by teacher behaviour. Figure 17.3 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour, along with the change in the percentage of students' principals between PISA 2012 and 2018. Overall, across the 6-year period teacher behaviour hindering student learning increased.

- Between 2012 and 2018, on average, the percentage of students attending schools in which principals perceived student learning was hindered by *teacher absenteeism* increased by 6 percentage points, and the percentage of students attending schools in which principals perceived student learning was hindered by *teachers being too strict with students* increased by 3 percentage points over the 6-year period.

Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot									
Teachers not meeting individual students' needs		Teacher absenteeism		Staff resisting change		Teachers being too strict with students		Teachers not being well prepared for classes	
2012	Change over time	2012	Change over time	2012	Change over time	2012	Change over time	2012	Change over time
35	△ 3 pp	13	▲ 6 pp	36	△ 1 pp	6	▲ 3 pp	10	△ 4 pp

Notes: Change over time represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

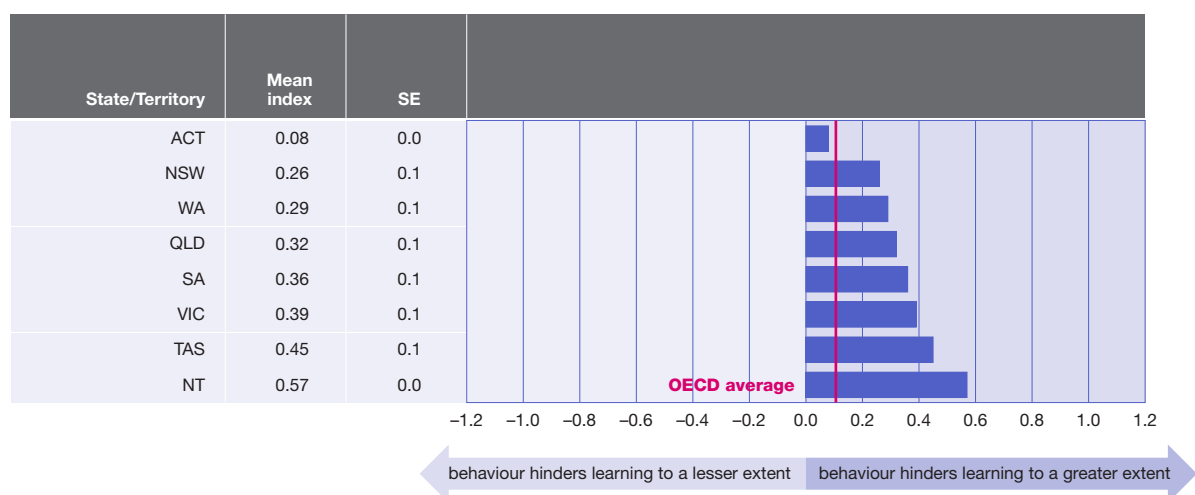
△▽ Change over time not significant.

FIGURE 17.3 Percentage of teacher-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018

Teacher behaviour hindering learning in a national context

Figure 17.4 shows the mean index scores for principals in each of the Australian states and territories, and the OECD average on the teacher behaviour hindering learning index. The mean index scores on the teacher behaviour hindering learning index ranged from 0.08 in the Australian Capital Territory to 0.57 in the Northern Territory.

- Principals in the Northern Territory perceived student learning was hindered by teacher behaviour to the greatest extent, while principals in the Australian Capital Territory perceived student learning was less hindered by teacher behaviour than in all other jurisdictions.
- On average principals in New South Wales perceived student learning was hindered by teacher behaviour to a lesser extent than their principal counterparts in Tasmania and the Northern Territory.



Note: Jurisdictions with the lowest mean score on the teacher behaviour hindering learning index are placed at the top of the figure and jurisdictions with highest mean score on the index are placed at the bottom.

FIGURE 17.4 Teacher-related behaviours hindering learning index, by state and territory

Figure 17.5 presents principals' responses to the individual items comprising the index of teacher behaviour, by jurisdiction.

- ▶ In the Australian Capital Territory, 19% of students attended schools at which principals perceived *teachers not meeting individual students' needs* hindered student learning, in contrast to 47% in South Australia.
- ▶ In Western Australia, 10% of students attended schools at which principals perceived *teacher absenteeism* hindered student learning, in contrast to 29% in Tasmania.
- ▶ In the Australian Capital Territory, 19% of students attended schools at which principals perceived *staff resisting change* hindered student learning, in contrast to 49% in the Northern Territory.
- ▶ In the Australian Capital Territory, 3% of students attended schools at which principals perceived *teachers being too strict with students* hindered student learning, in contrast to 15% in South Australia.
- ▶ In Queensland, 10% of students attended schools at which principals perceived *teachers not being well prepared for classes* hindered student learning, in contrast to 15% in New South Wales, Western Australia and Victoria.

State/Territory	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot				
	Teachers not meeting individual students' needs	Teacher absenteeism	Staff resisting change	Teachers being too strict with students	Teachers not being well prepared for classes
ACT	19	13	19	3	14
NSW	34	25	36	8	15
WA	35	10	35	10	15
QLD	35	12	30	7	10
SA	47	17	34	15	12
VIC	45	24	47	12	15
TAS	43	29	38	10	11
NT	33	14	49	7	13

Note: Jurisdictions are listed from the lowest to highest mean score on the teacher behaviour hindering learning index.

FIGURE 17.5 Percentage of teacher-related behaviours hindering learning, by state and territory

Figure 17.6 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour, by jurisdiction, along with the change in the percentage of students' principals between PISA 2012 and 2018.

- ▶ Between 2012 and 2018, on average, the percentage of students attending schools in which principals perceived student learning was hindered by *teachers not meeting individual students' needs* decreased most markedly by 32 percentage points in the Northern Territory, while a 12 percentage point increase was observed by principals in Tasmanian schools.
- ▶ Over the 6-year period, on average, the percentage of students attending schools in which principals perceived student learning was hindered by *teacher absenteeism* increased by 16 percentage points in Tasmania, and student learning being hindered by *staff resisting change* increased by 17 percentage points.
- ▶ On average, the percentage of students attending schools in which principals perceived student learning was hindered by *teachers not being well prepared for classes* increased by 9 percentage points in the Australian Capital Territory.

State/Territory	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Teachers not meeting individual students' needs		Teacher absenteeism		Staff resisting change	
	2012	Change over time	2012	Change over time	2012	Change over time
ACT	27	▼ 8 pp	15	▼ 2 pp	20	▽ 1 pp
NSW	30	△ 4 pp	17	△ 8 pp	35	△ 1 pp
WA	29	△ 6 pp	11	▽ 1 pp	41	▽ 6 pp
QLD	32	△ 3 pp	14	▽ 2 pp	34	▽ 4 pp
SA	39	△ 8 pp	12	△ 5 pp	33	△ 1 pp
VIC	46	▽ 1 pp	8	△ 16 pp	41	△ 6 pp
TAS	31	▲ 12 pp	13	▲ 16 pp	21	▲ 17 pp
NT	65	▼ 32 pp	7	▲ 7 pp	57	▽ 8 pp

State/Territory	Teachers being too strict with students		Teachers not being well prepared for classes	
	2012	Change over time	2012	Change over time
ACT	4	▲ 3 pp	5	▲ 9 pp
NSW	4	△ 4 pp	9	△ 6 pp
WA	7	△ 3 pp	10	△ 5 pp
QLD	7	0 pp	13	▽ 3 pp
SA	10	△ 5 pp	8	△ 4 pp
VIC	7	△ 5 pp	9	△ 6 pp
TAS	5	▲ 4 pp	8	△ 3 pp
NT	5	△ 4 pp	10	△ 3 pp

Notes: Change over time represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 17.6 Percentage of teacher-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, by state and territory

Figure 17.7 shows the mean index score on the teacher behaviour index for each school sector. Principals of students attending government schools perceived student learning to be hindered by teacher behaviour to a greater extent than in independent schools, while principals of students in Catholic schools perceived teacher behaviour hindered learning to a greater extent than in independent schools. Principals of students in government schools and Catholic schools perceived similar levels of teacher behaviour hindering learning.

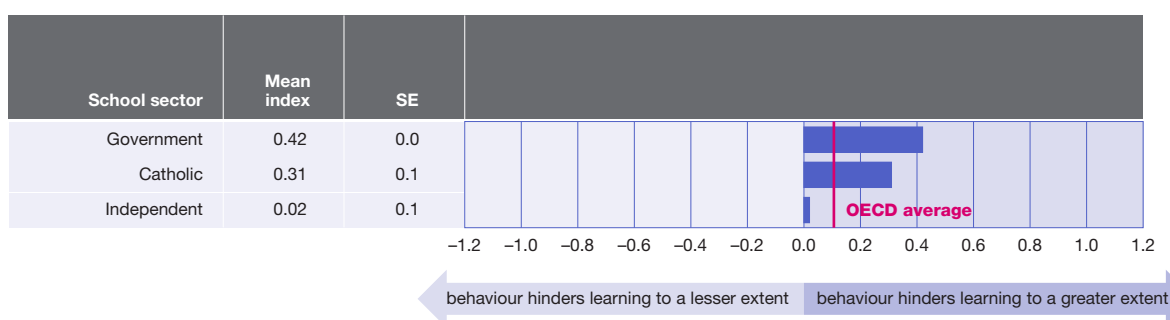


FIGURE 17.7 Teacher-related behaviours hindering learning index, by school sector

Figure 17.8 shows the percentages of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour.

- A higher percentage of students attended government schools at which principals (42%) perceived *teachers not meeting individual students' needs* hindered student learning than in independent schools (24%), while a higher percentage of students attended Catholic schools at which the principals (38%) perceived this behaviour was problematic than in independent schools (24%).

- ▶ A higher percentage of students attended government schools at which principals (23%) perceived *teacher absenteeism* hindered student learning than in independent schools (10%). Similarly, a higher percentage of students attended government schools at which the principals perceived *teachers being too strict with students* hindered student learning (11%) compared to 3% in independent schools, and principals in government schools perceived *teachers not being well prepared for classes* hindered student learning (15%) compared to their independent school counterparts (8%).

School sector	Percentage of students in schools whose principal reported behaviour occurring <i>to some extent or a lot</i>				
	Teachers not meeting individual students' needs	Teacher absenteeism	Staff resisting change	Teachers being too strict with students	Teachers not being well prepared for classes
Government	42	23	38	11	15
Catholic	38	18	41	9	15
Independent	24	10	30	3	8

FIGURE 17.8 Percentage of teacher-related behaviours hindering learning, by school sector

Figure 17.9 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour, by school sector, along with the change in the percentage of teacher-related behaviours between PISA 2012 and 2018.

- ▶ Between 2012 and 2018, on average, the percentage of students attending independent schools in which principals perceived student learning was hindered by *teachers not meeting individual students' needs* increased by 12 percentage points.
- ▶ Over the 6-year period, on average, irrespective of school sector the percentage of students attending schools in which principals perceived student learning was hindered by *teacher absenteeism* increased, ranging from 6 percentage points in government schools to 9 percentage points in Catholic schools.

School sector	Percentage of students in schools whose principal reported behaviour occurring <i>to some extent or a lot</i>					
	Teachers not meeting individual students' needs		Teacher absenteeism		Staff resisting change	
	2012	Change over time	2012	Change over time	2012	Change over time
Government	45	▽ 3 pp	17	▲ 6 pp	40	▽ 2 pp
Catholic	29	△ 9 pp	9	▲ 9 pp	36	△ 5 pp
Independent	12	▲ 12 pp	1	▲ 8 pp	27	△ 3 pp

School sector	Teachers being too strict with students		Teachers not being well prepared for classes	
	2012	Change over time	2012	Change over time
Government	7	△ 4 pp	13	△ 2 pp
Catholic	5	△ 4 pp	7	△ 8 pp
Independent	4	▽ 1 pp	4	△ 4 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 17.9 Percentage of teacher-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, by school sector

Teacher behaviour hindering learning for different demographic groups in a national context

Figure 17.10 shows the mean index score on the teacher behaviour index for each different demographic group.

- ▶ Principals of students who were the most disadvantaged perceived teacher behaviour hindered student learning more so than did principals of students who were least disadvantaged in their schools.
- ▶ Principals of students who attended schools in provincial areas perceived teacher behaviour hindered student learning more so than did principals of students in metropolitan schools.
- ▶ Principals of students in provincial schools reported that teacher behaviour hindered student learning to a greater extent than was reported by principals of students in metropolitan schools, while principals' of students in metropolitan and remote schools, and provincial and remote schools reported teacher behaviour hindered student learning to a similar extent.
- ▶ Principals of students who were of Indigenous background perceived teacher behaviour hindered student learning to a greater extent than did principals of non-Indigenous students.

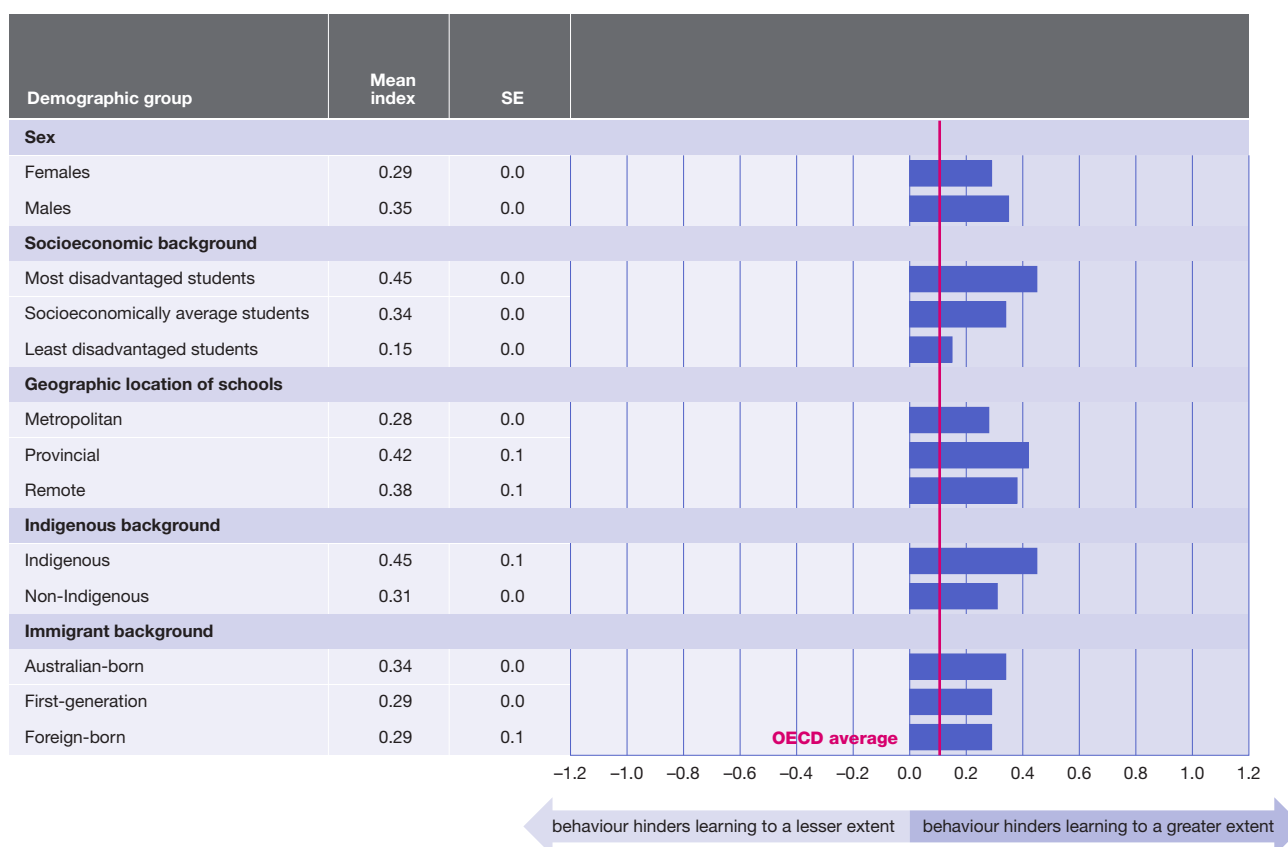


FIGURE 17.10 Teacher-related behaviours hindering learning index, for different demographic groups

Figure 17.11 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour for the different demographic group.

- ▶ A higher percentage of principals of the most disadvantaged students (43%) perceived *teachers not meeting individual students' needs* hindered student learning than reported by principals of least disadvantaged students (30%), while a higher percentage of principals of the most disadvantaged students (25%) perceived *teacher absenteeism* hindered student learning than reported by principals of the least disadvantaged students (14%).

- ▶ *Staff resisting change* was more frequently cited by principals of metropolitan schools (37%) and provincial schools (38%) as a teacher behaviour hindering student learning, in contrast to principals in remote areas (5%).
- ▶ Overall, students' principals did not perceive teacher behaviour hindered the learning of students based on their Indigenous background or immigrant background.

Demographic group	Percentage of students in schools whose principal reported behaviour occurring <i>to some extent or a lot</i>				
	Teachers not meeting individual students' needs	Teacher absenteeism	Staff resisting change	Teachers being too strict with students	Teachers not being well prepared for classes
Sex					
Females	36	19	37	9	13
Males	39	20	38	11	14
Socioeconomic background					
Most disadvantaged students	43	25	40	13	16
Socioeconomically average students	39	20	37	10	14
Least disadvantaged students	30	14	35	6	10
Geographic location of schools					
Metropolitan	37	18	37	8	14
Provincial	39	23	38	13	11
Remote	53	23	5	1	12
Indigenous background					
Indigenous	42	22	38	9	17
Non-Indigenous	37	19	37	10	13
Immigrant background					
Australian-born	38	20	37	10	13
First-generation	36	20	38	10	14
Foreign-born	38	19	37	11	14

FIGURE 17.11 Percentage of teacher-related behaviours hindering learning, for different demographic groups

Figure 17.12 shows the percentages of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour, for different demographic groups, along with the change in the percentage of teacher-related behaviours between PISA 2012 and 2018.

- ▶ Between 2012 and 2018, on average, the percentage of principals of female students and male students perceived student learning was hindered by *teacher absenteeism* increased by 7 percentage points.
- ▶ Over the 6-year period, on average, the percentage of students attending schools in which principals perceived the learning of most disadvantaged students was hindered by *teacher absenteeism* increased by 6 percentage points and increased by 7 percentage points for the least disadvantaged students.
- ▶ On average, the percentage of students attending metropolitan schools in which principals perceived students learning was hindered by *teachers not meeting individual students' needs* increased by 7 percentage points, and similarly increased by 8 percentage points for principals who perceived *teacher absenteeism* was problematic to student learning.
- ▶ Between 2012 and 2018, on average, the percentage of students attending schools in which principals perceived *staff resisting change* hindered students learning decreased markedly by 19 percentage points in remote schools.
- ▶ On average, the percentage of students attending schools in which principals perceived non-Indigenous students learning was hindered by *teacher absenteeism* increased by 7 percentage points.

- Over the 6-year period, on average, the percentage of students attending schools in which principals perceived first-generation students learning was hindered by *teacher absenteeism* increased by 9 percentage points.

Demographic group	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Teachers not meeting individual students' needs		Teacher absenteeism		Staff resisting change	
	2012	Change over time	2012	Change over time	2012	Change over time
Sex						
Females	33	△ 3 pp	12	▲ 7 pp	37	0 pp
Males	36	△ 3 pp	13	▲ 7 pp	36	△ 2 pp
Socioeconomic background						
Most disadvantaged students	46	▽ 3 pp	19	▲ 6 pp	40	0 pp
Socioeconomically average students	35	△ 4 pp	12	▲ 8 pp	36	△ 1 pp
Least disadvantaged students	23	▲ 7 pp	7	▲ 7 pp	33	△ 2 pp
Geographic location of schools						
Metropolitan	30	▲ 7 pp	10	▲ 8 pp	33	△ 4 pp
Provincial	47	▽ 8 pp	20	△ 3 pp	48	▽ 10 pp
Remote	47	△ 6 pp	16	△ 7 pp	24	▼ 19 pp
Indigenous background						
Indigenous	48	▽ 6 pp	18	△ 4 pp	38	0 pp
Non-Indigenous	35	△ 2 pp	12	▲ 7 pp	36	△ 1 pp
Immigrant background						
Australian-born	36	△ 2 pp	13	▲ 7 pp	37	0 pp
First-generation	33	△ 3 pp	11	▲ 9 pp	36	△ 2 pp
Foreign-born	31	△ 7 pp	11	▲ 8 pp	33	△ 4 pp

Demographic group	Teachers being too strict with students		Teachers not being well prepared for classes	
	2012	Change over time	2012	Change over time
Sex				
Females	7	△ 2 pp	10	△ 3 pp
Males	6	▲ 5 pp	10	▲ 4 pp
Socioeconomic background				
Most disadvantaged students	8	▲ 5 pp	14	△ 2 pp
Socioeconomically average students	6	▲ 4 pp	10	▲ 4 pp
Least disadvantaged students	4	△ 2 pp	7	△ 3 pp
Geographic location of schools				
Metropolitan	5	▲ 3 pp	8	▲ 6 pp
Provincial	10	△ 3 pp	14	▽ 3 pp
Remote	11	▽ 10 pp	20	▽ 8 pp
Indigenous background				
Indigenous	10	▽ 1 pp	13	△ 4 pp
Non-Indigenous	6	▲ 4 pp	10	△ 3 pp
Immigrant background				
Australian-born	6	△ 4 pp	10	△ 3 pp
First-generation	6	▲ 4 pp	10	▲ 4 pp
Foreign-born	5	▲ 6 pp	10	△ 4 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 17.12 Percentage of teacher-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, for different demographic groups

Teacher behaviour hindering learning and reading literacy performance

Figure 17.13 shows that principals of students who were high performers perceived teacher behaviour hindered student learning to a far lesser extent than did principals of students who were low performers.

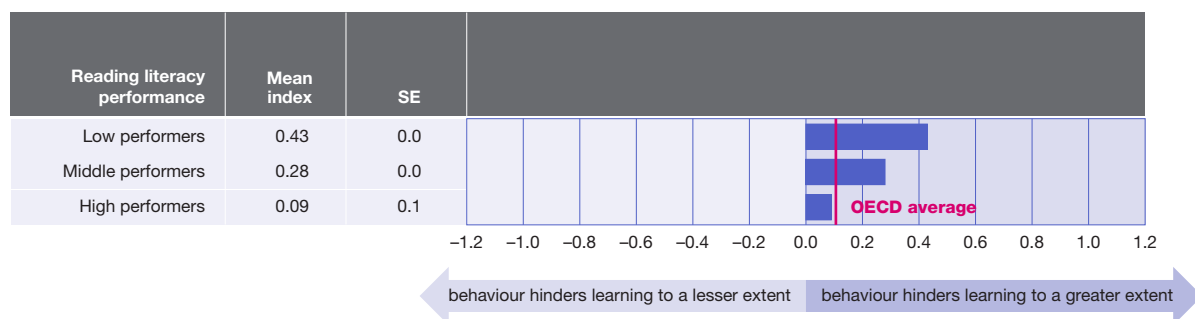


FIGURE 17.13 Teacher-related behaviours hindering learning index, by reading literacy performance group for Australia

Figure 17.14 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour, by reading literacy performance group.

- ▶ A higher percentage of students principals (43%) perceived *teachers not meeting individual students' needs* hindered low performing students learning than high performing students (30%), while a higher percentage of students principals (24%) perceived *teacher absenteeism* hindered low performing students learning than high performing students (12%).
- ▶ A higher percentage of students' principals (16%) perceived *teachers not being well prepared for classes* hindered low performing students learning than high performing students (10%).

Reading literacy performance	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot				
	Teachers not meeting individual students' needs	Teacher absenteeism	Staff resisting change	Teachers being too strict with students	Teachers not being well prepared for classes
Low performers	43	24	37	11	16
Middle performers	36	18	37	9	13
High performers	30	12	34	7	10

FIGURE 17.14 Percentage of teacher-related behaviours hindering student learning, by reading literacy performance group

Figure 17.15 shows the percentage of Australian students attending schools in which principals perceived student learning was hindered by each teacher behaviour by reading literacy performance group, along with the change in the percentage of teacher-related behaviours between PISA 2012 and 2018.

- ▶ Between 2012 and 2018, on average, the percentage of students attending schools in which principals perceived the learning of high performing students was hindered by *teachers not meeting individual students' needs* increased by 15 percentage points.
- ▶ Over the 6-year period, on average, the percentage of students attending schools in which principals perceived the learning of low and middle performing students was hindered by *teacher absenteeism* increased by 6 and 7 percentage points respectively.

Reading literacy performance	Percentage of students in schools whose principal reported behaviour occurring to some extent or a lot					
	Teachers not meeting individual students' needs		Teacher absenteeism		Staff resisting change	
	2012	Change over time	2012	Change over time	2012	Change over time
Low performers	45	▽ 2 pp	18	▲ 6 pp	38	▽ 1 pp
Middle performers	33	△ 3 pp	11	▲ 7 pp	36	△ 1 pp
High performers	15	▲ 15 pp	7	△ 5 pp	33	△ 1 pp

Reading literacy performance	Teachers being too strict with students		Teachers not being well prepared for classes	
	2012	Change over time	2012	Change over time
Low performers	8	△ 3 pp	14	△ 2 pp
Middle performers	6	▲ 3 pp	9	△ 4 pp
High performers	4	△ 3 pp	6	△ 2 pp

Notes: *Change over time* represents the percentage point (pp) difference between PISA 2018 and 2012.

▲▼ Change over time significant.

△▽ Change over time not significant.

FIGURE 17.15 Percentage of teacher-related behaviours hindering learning in PISA 2012, and the difference between PISA 2012 and 2018, by reading literacy performance group

Figure 17.16 shows the relationship between teacher behaviours (by quartiles) and reading literacy performance. For Australian students attending schools in which principals perceived teacher behaviours hindered learning there was a very small negative relationship between teacher behaviours and reading literacy performance ($r = -0.11$). Students attending schools in which principals perceived teacher behaviour hindered learning to a lesser extent performed higher in reading literacy than students attending schools where principals perceived teacher behaviour was more problematic.

On the teacher behaviours index, students in the highest quartile scored 28 points on average lower than students in the lowest quartile. This score point difference is equal to just under one year of schooling.

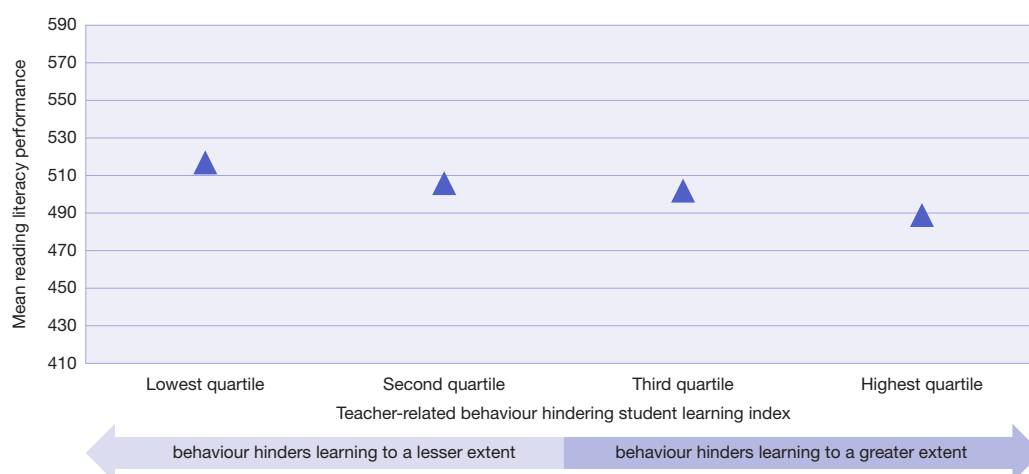


FIGURE 17.16 Relationship between teacher-related behaviours hindering learning and reading literacy performance, for Australia

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